Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 MB 3,8 e

3. Edition

<u>En</u>

PES 4 A 80 C 410 RS 2094

EP/RSV 300-1300 A1 B424 D (1) supersedes

EP/RSV 300-1400 A2 B424 D (2) company

EP/RSV 250-1500 A2 B424 D (3) engine

6.70 Daimler-Benz

OM 314

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 + 0,1

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ² /100 strakes	mm 6
1000	9	5,6 - 6,0	0,4			
200	5	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

EP/RSV 300-1300 A1 B424 D (1)

Degree of deffection of control lever	r rated speed Control rod travel mm 2	rev/min Control red travel mm rev/min 3	Interme	Intermediate rated speed 4 5 6				rated speed Control rod travel mm	1(3)	rque control Contrel red travel mm
ca.73	1300 1350 1390	16,0 10,6 4,6	without auxiliar			ca.27 y	300 100	6,0 19 - 21	1280	0
29	1360 1400 1500	7,5-10,5 2,6- 5,6 0,3- 1	with sprin	auxil [.]	iary		300 450 600	5,7-6,3 1,4-3,6 0 - 1	900 400	0,4-0,6 1,2-1,4

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	speed limitat Note Changed to		11361	iel delivery paracteristics	Starting t	uel delivery 5	4a) Idle stop		
rev/min			changed to)		rev/min	cm ³ /1000 strokes	rev/min	cm\$1000 strokes	rev/min 8
1280	55,0-57,0 54,0-58,0	1340-1350*	900 500	52,0-55,0 51,0-56,0 52,5-55,5 51,5-56,5	100	6,8-7,8	300	6,0	
								./.	

Checking values in brackets



^{* 1} mm less control rod travel than col 2

300-1400 A2 B424 D (2)

	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Interme			Control- lever deflection in degrees 7	rev/min	Control rod travel rev/min mm		rque control Control rod travel mm
ca.57	1400	16,0		hout a		ca.22	300	6,0		
	1460 1520	12,0 6,8		ing	UXIIIO	ialy	100	19 - 21	1380	0
29	1500 1600 1720	6,8-10,0 1,8- 4,3 0,3- 1	E	with auxiliary spring			300 500 700	5,7-6,3 1,8-3,9 0 - 1	500	0

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	Rotational-speed limitat Note:		el delivery aracteristics	Starting fuel delivery 5			idle stop		
rev/min	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	travel mm 9		
1380	47,5 - 49,5 46,5 - 59,5	1440-1450*			100	6,8-7,8 5,8-8,8	300	6,0		

Checking values in brackets

Testoil-ISO 4113

B. Governor Settings

250-1500 A2 B424 D (3)

(1) Uppe	r rated speed	rev/min	Interm	ediate rat	ed speed	4	Lowe	r rated speed	3 Torque control		
deflection t	Control rod travel mm	Control rod travel mm rev/min				Control- lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rad travel mm	
1	2	3	4	5	6	7	8	9	10	11	
ca.61	1500	16,0	والمارات		uxilia	ca.21	250	6,0]		
	1600 1630	8,0 5,6	spri		uxtita	y	150	19 - 21			
20	1610 1700 1800	5,6-8,8 1,4-4,2 0,3-1,0		with auxiliary spring			250 500 660	5,7-6,3 0,8-3,6 0 - 1			

C. Settings for Fuel Injection Pump with Fitted Governor

	II-load stop	speed limitat. Characteristics			Starting f	uel delivery 5	4a) tdle stop	
Test oil to rev/min 1	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9
1480	48,5 - 50,5 47,5 - 51,5	1540-1550*		÷	100	6,8-7,8 5,8-8,8	250	6,0

Checking values in brackets

* 1 mm less control rod travel than col. 2

^{* 1} mm less control rod travel than col. 2

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Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 MB 5,7 n 1 3. Edition

n

PES 6 A 90 D 410 RS2293

RQV 300-1425 AB 919,920,925

RQV 300-1425 AB 919,920,925

supersedes 9.76

company Daimler-Benz engine OM 352(130PS) "Z"-OM 352A (168PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15+0,1

RS2293Z

mm (from BDC)

 $\binom{+0,15}{-0,05}$

Rotational speed	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,5 - 5,0	0,4			
	6	1,8 - 2,6				
	12	7,3 - 8,3				
200	9	2,0 - 2,8				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rate	d speed		Intermediate	rated sp	eed	Lower rated	speed	1	Sliding s	eeve travel
Degree of deflection of control	rev/min Control rod travel	Control rod travel	of control		Control rod travel	Degree of deflection of control		Control rod travel	rev/min	(1)
lever	mm	rev/min (2	B) lever	rev/min 5	mm (4)	lever	rev/min	mm (3)	10	11
ca.28		16,0-19,0 10,8-15,3 3,3-10,0 0 - 7,4		-	-	ca.10	200 300 450 600 760	6,0-7,4 4,9-6,6 3,0-3,9 1,4-2,8	400 1425	1,2-2,2 8,3
						3a				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		limitation intermediate speed	high idle s	Fuel delivery characteristics (5a) high idle speed (5b)		fuel delivery 6	Torque- travel	Control 5 Control rod travel	
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm .	
,	2	3	4	5	6	7	8	9	
1400	61,0-63,0 59,5-64,5	1455 - 1465*			100	72,25-82,25 70,75-83,75		(919, 925)	
1400	73,5-75,5 72,0-81,0	1435-1445*					1300	(920)	
					180-	250min ⁻¹			

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 411

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MB 5,7 s 3 1. Edition

En

PES 6 A 90 D 410 RS2293Z

RQV 300-1425 AB946L

supersedes company

engine

MB5,7s(8.77)
Daimler-Benz
115kW (156PS)

OM 352..

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2.15 + 0.1

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
1	2	3	4	2	3	6
1000	9	4,5 - 5,0	0,4			
	6 12	1,8 - 2,6 7,3 - 8,3				
200	9	2,0 - 2,8				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	rated spe	ed	Lower rated	speed	•	Sliding s	leeve travel
Degree of defrection	rev/min Control	Control rod (a)	Degree of deflection		Control rod travel	Degree of deflection		Control rod travel		1
of control	rod travel mm	mm rev/min (2a)	of control lever	rev/min	mm (4)	of control lever	rev/min	mm (3)	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
ca.66	1425 1500 1550	11,6-16,0		-	-	ca.10	100 300 450	6,6-7,8 4,9-6,4 3,0-4,2	400 1425	
 	1650 1790	1,4-8,0					600 760	1,3-2,8		
						3 a			<u> </u>	

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil ten		Rotational-speed 2b timitation intermediate speed	Fuel deliv high idle s	rery characteristics 5e peed 5b	Starting Idle switching	$\mathbf{O}_{\mathbf{I}}$	Torque- travel	control 5
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min cm³/1000 strokes		rev/min	travel mm
1	2	3	4	5	8	7	8	9
LDA 1410	0,4 bar 70,0-72,0 68,5-73,5	1440-1450*	LDA 1410 500	57,5-64,0	100 100	13,7-14,3 220(80-240)		

Checking values in brackets

* 1 mm less control rod travel than col. 2

12.77

A11

BOSCH

Seschäftsbereich KM. Kundendienst Kf2-Austustung. E. by Robert Boach GmbH, D-7 Stuttgart 1, Postfach 50. Printed in the Federal Republic of Germany mornme en Republique Federale d'Alemaene pay Robert Boach GmbM.

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 MB 5,7 h

3. Edition

PES6A80C410RS2194, 2085 RS2194, 2085 RS2194V,2085V RS2194, 2085	RQV300-1425AB620D, 625D AB628D, 629D AB625D AB657D	 ompany: DAI5,7h-1.68 company: Daimler-Benz (1-110kW-150PS) (2- 93kW-126PS) (3-115kW-156PS)
		(4- 96kW-130PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2,10-2,30) mm (from BDC)

		(2,10-2,30)				
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,5 - 6,0	0,4			
!	6	2,2 - 3,0				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

620D, 625D (1)

Upper rated s	peed			Intermediate	rated spe	eed	Lower rated	speed		Stidings	leeve travel
deflection	rev/min Controt	Control rod travel	10	Degree of deflection		Control rod travel	Degree of deflection		Control rod travel		①
of control lever	rod travel mm	rev/min	(28)	of control lever	rev/min	mm (4)	of control lever	rev/min	mm (3)	rev/min	mm
1	2	3		4	5	6	7	8	9	10	11
ca.66		16,0-19	-				ca.10	200 400	6,0-7,4 3,5-5,2	1425	8,3
	1550 1650	1,4-8	,0		:			460 600	2,7-3,8	1425	0
	1700 1790		,2					770	1,4-2,8 0	600	0,4-0,6
							3 a				

Torque controi travel a = 0.5 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil ten		Rotational-speed 20 Imitation Intermediate speed	Fuel detiving high idle s	rery characteristics 50 peed 50	Starting Idle switchir		Torque- travel	control 5
rev/min 1	cm ³ /1000 strokes	rev/min 4a	rev/min 4	cm ³ /1000 strokes	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
(1) 1400	66,0 - 68,0 65,0 - 69,0	1455-1465*	1000 800 500	60,5-63,5 61,5-64,5 56,5-60,0	100	72,5-82,5	700 1300	(620D) (625D)

Checking values in brackets

* 1 mm less control rod travel than col. 2

eed			Intermediate	rated spe	ed		Lower rated	speed		Station - a	
Controi rodtravel	travel mm	$\stackrel{\smile}{\sim}$	deflection of control		travel	$\overline{}$	Degree of deflection of control		Control rod travel		1
mm 2	rev/min 3	(28)	lever			(4) -	lever	rev/min 8	mm (3	rev/min	mm 11
1425 1550 1650 1700	8,2-13 1,4- 8	,4 ,0	-	-	-		ca.10	200 400 480 600	3,5-5,2 2,7-3,8	1425	8,3 0
1790	0	-					(3a)	770	0		0,7-0,9
	rev/min Control rodtravel mm 2 1425 1550 1650 1700	rev/min Control rod travel rodtravel mm rev/min 3 1425 16,0-19 1550 8,2-13 1650 1,4-8 1700 0-5	rev/min Control rod travel rodtravel mm rev/min 2a 3 1425 16,0-19,4 1550 8,2-13,4 1650 1,4-8,0 1700 0 - 5,2	rev/min Control rod Tayel Control Cont	rev/min Control rod (1a) Degree of deflection of control lever rev/min 2a	rev/min Control rod (1a) Con	rev/min Control rod Travel Control rod Control rev/min Control rod Control	rev/min Control rod Travel Control rod Control rod Control rod ravel Control rod ravel Control rod ravel Control rod deflection of control lever Control rod deflection Control rod deflection Control rod deflection Control rod deflection Control rod	rev/min Control rod Travel Control rod Travel Control rod	Control rod Control rev/min Control rod Control ro	rev/min Control rod Travel Travel

Torque control travel a = 0,8 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b Ilmitation intermediate speed	Fuel deliv	very characteristics 5a speed 5b	Starting idle switchir		Torque- travel	Control rod
rev/min 1	cm \$1000 strokes	rev/min 4a	rev/min	cm ²⁷ 1000 strokes 5	rev/min 6	cm3/1000 strokes	rev/min 8	travel mm
(2) 1400	56,0-58,0	1455-1465	1000 800 500	53,5-56,5 52,0-55,0 49,5-52,5	100	72,5-82,5	700	

Checking values in brackets

B. Governor Settings

V mit 625 D (3)

Upper rated	speed			intermediate	rated spe	ed		Lower rated	speed		Studings	leeve travel
Degree of deflection of control	eflection Control travel			deflection travel d			Degree of deflection of control		Control rod travel	1		
lever	mm	rev/min	(2a)	lever	rev/min	mm	4	lever	rev/min	mm (3)	rev/min	mm
1	2	3		4	5	6		7	8	9	10	11
ca.66	1425 1550 1650 1700 1790			-	-	-		ca.10		6,0-7,4 3,5-5,2 2,7-3,8 1,4-2,8	1425 1425 600	8,3 0 0,4-0,6
								3a				

Torque control travel a = 0

0,5 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil ten		intermediate speed	nigh idie s	very characteristics Sa	Starting Idle switching		Torque- travel	Control Control
rev/min 1	cm³/1000 strokes 2	rev/min 3	rev/min 4	cm ⁹ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
(3) 1400	70,5-72,5	1455-1465*	1000 800 500		100	72,5-82,5	1300	

Checking values in brackets

* 1 mm less control rod travel than col. 2

En

^{* 1} mm less control rod travel than col 2

1	rev/min	Control rod	(1a)	Intermediate Degree of		ed Control rod travel		Lower rated Degree of deflection		Control rod	Sliding sleeve travel	
	Control rodtravel mm	travel mm rev/min	_		rev/min	mm	•	of control		mm ③	rev/min	mm 11
ca.66	1425 1550	16,0-1 8,2-1		-	5	6 -		ca.10		6,0-7,4 3,5-5,2	1425	
	1650 1700 1790	1,4-							480 600 770	2,7-3,8 1,4-2,8	1425	
	1730							(3a)			600	0,8-1,0

Torque control travel a = 0,9 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem		Rotational-speed (2b) limitation intermediate speed	Fuel deliv high idle s	ery characteristics 5a peed 5b	Starting tidle switching		Torque- travel	Control rod
rev/min	cm ³ 1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm3/1000 strokes	rev/min 8	travel mm 9
(4) 1400	58,0-60,0	1455-1465*	1000		100	72,5-82,5		
1400	30,0 00,0	1 133 1403	800	56,5-59,5 51,5-54,5		/2,0 02,0		

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

Upper rated :	speed			Intermediate	rated spe	ed	Lower rated	speed		Sliding sl	eeve travel
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	(la) (2a)	Degree of deflection of control lever	rev/min	rravel	Degree of deflection of control lever	rev/min	control rod travel mm 3	rev/min	mm 11
1	2	3		4	5	6	<u>'</u>	-	3	,,ů	
		İ									
,											
						-	3 a				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten	elivery d stop np 40°C (104°F) 2	Rotational-speed (2b) Ilmitation intermediate speed (4a)	Fuel deliv high idle s	peed 5b	Starting idle switching		travei	Control rod
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ⁹ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
			}		1		ł	
ļ					1	1		i .
					1		1	
		İ			1		1	
					<u> </u>		<u> </u>	<u> </u>

Checking values in brackets

* 1 mm less control rod travel than col. 2

40

WPP 001/4 MB 3,8 f

12.75

OM 314

3. Edition

En

PES 4 A 80 C 410 RS2094Z EP/RSV 350-1425 A2 B1008D (1) supersedes 2094Z EP/RSV 350-1275 A2 B 242D (2) company 2094Z EP/RSV 350-1200 A2 B1004D (3) engine 1106Z EP/RSV 350-1425 A2 B1008D (1)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

(1- 80 PS) (2- 54 PS) (3-MB-Trac 65 PS)

Daimler-Benz

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 + 0,1

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strakes	cm³/ 100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
1000	9	4,3 - 4,8	0,3			
	6	1,8 - 2,6				
	15	10,3 -11,6				
200	9	2,4 - 3,4		,		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

estoil-ISO 41

350-1425 A2B1008D (1)

	r rated speed Control rod travel mm					Control- lever deflection in degrees	rev/min	Control rod travel	rev/min	rque control Control rod travel mm
ca.60	1425 1500 1560	16,0 11,5 6,6	without auxiliar spring			ca.22	350 200	7,0 19 - 21	1400	0
28	1520 1600 1800	/ 11_ 6 0	with auxiliary spring			350 600 870	6,7-7,3 2,3-4,6 0 - 1	700 450	0,6-0,8	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

9	ill-load stop	6 Rotational- speed limitat		iel delivery paracteristics	Starting t	uel delivery 5	(4a) Idle stop	
Test oil to rev/min 1	emp 40°C (104°F) cm³/1000 strokes 2	Note changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min	cm ² /1000 strokes 7	rev/min 8	Control rod travel mm 9
1400	59,0 - 61,0 58,5 - 61,5	1440-1455*	700 500	51,0-54,0 50,5-54,5 50,0-53,0 49,5-52,5	100	72,5-82,5 72,0-83,0		

Checking values in brackets

* 1 mm less control rod travel than col 2



350-1275 A2B242D (2)

B. Governor Settings

Degree of deflection of control lever 1	r rated speed Control rod travel mm		Intermed	fiate rated	speed	Control- lever deflection in degrees 7	- Lower	rated speed Control rod travel mm 9	1 2	rque control Control rod travel mm
ca.54	1275 1350 1420	16,0 11,4 6,2	witho sprin	ut aux g	ailiar	ca.22 y	350 200 350	7,5 19 - 21 7,2-7,8	1275	0
29	1380 1500 1680	7,8-10,2 2,6-4,8 0,3-1,0	with sprin	auxili g	iary		600 900	2,9-5,2 0 - 1	400	0,2-0,4 1,1-1,3

C. Settings for Fuel Injection Pump with Fitted Governor

2b Fu	ill-load stop	Rotational-speed limitat. 3a Fuel delivery characteristics			Starting f	uel delivery 5	4a idle stop	
Test oil to rev/min 1	cm ³ /1000 strokes 2	Note: changed to) rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9
(2) 1250	44,5 - 46,5	1300-1310*	1000 800 500	43,5-46,5 42,0-45,0 41,0-44,0	100	72,5-82,5		
**								

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

350-1200 A2B10004D (3)

def	gree of lection control	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Intermed	liate rated		Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	11 5 /	rque control Control rod travel mm
С	a.44	1200 1250 1300	16,0 10,7 4,8	witho sprin	ut aux g	alliar	ca.15	350 200 350	6,0 19 - 21 5,7-6,3	1200 1000	0
@	9	1200 1300 1450	ca.8,5 ca.3,2 0,3-1,0	with sprin	auxili g	iary		600 850	1,8-3,8	500	0,1-0,3 0,8-1,0

C. Settings for Fuel Injection Pump with Fitted Governor

	III-load stop emp. 40°C (104°F)	Note:		el delivery aracteristics	Starting f	uel delivery 5	da Idle stop Control rod	
rev/min 1	cm³/1000 strokes 2	changed to) rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min 6	cm³/1000 strokes 7		mm 9
(3) 1200	47,5 - 49,5	1220-1235*	1000 500	46,5 - 49,5 42,5 - 45,5	100	72,5-82,	5	·
** I	ncrease by ± 0,	cm³!						

Checking values in brackets

* 1 mm less control rod travel than col. 2

138

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 MB 3,8 k 1. Edition

Er

PES 4 A 90 D 410 RS2294

EP/RSV 750-1400 A0B795DL

supersedes

company

Daimler-Benz

engine OM 314

(Generator -90PS)

Ail test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

estoil-ISO 4113

2,15 + 0,1

mm (from BDC)

Rotational speed	travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm (2)	cm³/100 strokes 3	100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6
1000	9	4,5 - 5,0	0,3(0,45)			
	6 12	1,8 - 2,6 7,3 - 8,2				
200	9	2,0 - 2,8				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	interme	diate rated	speed	Control- lever deflection in degrees 7	Lotyet rev/min 8	rated speed Control rod travel mm 9	1 5	rque control Control rod travel mm
ca.51	1330 1380 1440 1385 1440 1500	15,8 10,7 3,3 ca. 9,7 ca. 3,6 0,3-1,7	with spri	out au ng	xilia	ca.30 y	750 100 750 820	6,0 mind.19 5,7-6,3 0 - 1	1380 450	0 1,7-1,9

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

-load stop	6 Rotational- speed limitat		el delivery Starting fue aracteristics Idle		fuel delivery 5	4a) idle stop	
np 40°C (104°F) cm³/1000 strokes	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm
71,5 - 72,5 (69,5 - 74,5)	1385-1390	*		100	84,25- 91,25		
		1435-	1440 = 3,6mmRW	750	20,25- 26,25		
Г	np 40°C (104°F) cm³/1000 strokes ? 71,5 - 72,5	speed limitat Note changed to) rev/min 3 71,5 - 72,5 1385-1390	speed limitat Note changed to) rev/min 3 rev/min 3 1385-1390*	speed limitat Characteristics Note changed to) rev/min rev/min cm³/1000 strokes 71,5 - 72,5 1385-1390*	Note changed to) rev/min 3 (69,5 - 74,5) Note changed to) rev/min 6 (71,5 - 72,5) 1385-1390* 100 100 100 100 100 100 100	speed limitat Note Characteristics Idle Note Changed to 1 rev/min 2 characteristics rev/min 3 cm²/1000 strokes 71,5 - 72,5 (69,5 - 74,5) 1385-1390* 100 84,25- 91,25 750 20,25- 26,25	The 40°C (104°F) Note changed to) rev/min 3

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung § 1980 by Robert Bosch GmbH. Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany imprime en Republique Federale d'Allemagne par Robert Bosch GmbH.

Checking values in brackets

BOSCH

· ---

^{* 1} mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 MB 3,8 h

2. Edition

En

PES 4 A 90 D 410 RS 2294

EP/RSV 350-1000 A1 B 585 D (1)

supersedes company

9.73 Daimler-Benz

350-1300 A2 B 1033 (2) engine

OM 314 (64 PS - 1) (75 PS - 2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
1000	9	4,5 - 5,0	0,4			
	6 12	1,8 - 2,6 7,3 - 8,2				
200	9	2,0 - 2,8				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 41

350-1000 A1 B585D (1)

(1) Uppe	r rated speed		Intermo	ediate rate	d speed	4	Lowe	r rated speed	(3) To	rque control
Degree of deflection of control	Control rod travel mm	Control rod travel mm rev/min				Control- lever deflections in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
lever 1	2	3	4	5	6	7	8	9	10	11
ca.45	1000	16,0				ca.16	300	7,3	000	
	1020 1040	12,0 7,0	with spri		ıxiliaı	1 y	200 300	19 - 21 7,0-7,6	980	0
(2a)	1030 1060 1180	8,0-10,5 4,4-6,0 0,3-1,0	with spri	auxi ng	liary		450 600	1,5-4,3	600	0,5-0,7

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b) Fu	ill-load stop	6 Rotational- speed limitat	11.361	uel delivery naracteristics	Starting f	uel delivery 5	(4a) Idio	e stop
Test oil te rev/min 1	emp 40°C (104°F) cm³/1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm1/1000 strokes 7	rev/min	Control rod travel mm 9
980	56,0-58,0	1025-1035*	500	50,0-53,0	100	ca.7,9	300	7,3
								./.

Checking values in brackets

* 1 mm less control rod travel than col. 2

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350-1300 A2 B 1033 (2)

	r rated speed Control rod travel mm		Interme	Intermediate rated speed			Lower rev/min · 8	r rated speed Control rod travel mm	rev/min	rque control Control rod travel mm
ca.55	1300 1380 1430	16,0 10,9 7,3	with spri		uxilia	ca.23 y	350 200 350	7,5 19 - 21 7,2-7,8	1280 400	0
23	1450	8,5-10,5 4,0- 7,3 0,3- 1,0	7	auxi	liary		450 600	3,2-5,2 0 - 1	100	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	Rotational- speed limitat:		el delivery paracteristics	Starting f	ruel delivery 5	(49)	Stop Control rod
rev/min	emp. 40°C (104°F) cm³/1000 strokes	changed to) rev/min	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	travel mm 9
1300	63,0 - 65,0	1325-1335*			100		t inte eed st O min ⁻	φp

Checking values in brackets

estoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Interme	diate rated	speed	Control- lever defiection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	rque control Control rod travel mm
23		•							

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	Note:	39 Fu ch	el delivery aracteristics	Starting f tdle	uel delivery (5)	(4)	Control rod
rev/min	cm³/1000 strokes	changad to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	mm 9
							<u> </u>	

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MAN 9,2 a 1

1. Edition

PES 5 A 95 D 410 LS 2426

RQV 250-1150 AB 956 L (1) supersedes

companyMAN (2 - 3)ROV 750 AB 955 L

engine D 2555 MXE (4) **RQV 1050 ABV12865** (192 PS - 1)

RQV 250-1050 ABV 12912 (5)

(121 PS - 2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

(133 PS - 3)

A. Fuel Injection Pump Settings

(165 PS - 4-5)

Port closing at prestroke

1,3+0,1

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,5 - 8,0	0,4			
	6	3,2 - 4,2				
200	6	0,5 - 1,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1) RQV..956 L

Upper rated s	peed		Intermediate	rated sp	eed 1	Lower rated	speed	1.	Sliding s	eeve travel
deflection		Control rod (1a)	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	·	0
of control	rod travel mm	rev/min (28)	lever	rev/min	mm 4	lever	rev/min	mm 3	rev/min	mm
<u> </u>	2	3	4	5	6	7	8	9	10	11
ca.50	1100 1150 1200 1260	1,0 - 8,0	-	-	-	ca. 10		9,1-11,0 5,8-8,3 1,6-4,5 0	450 1100	2,4-3,0 8,7
						3a				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

				idle	`	Torque	Control (5) Control rod travel
cm³/1000 strokes	rev/min 40	rev/min	cm³/1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	
2	3	4	5	6	7 ,	8	9 .
117,5 - 119,5	1190-1205*			100	149,0-159,	0	
				Switc 180	hing point - 100 min ⁻¹		
	stop p. 40°C (104°F) 2 cm³/1000 strokes 2	I stop ip. 40°C (104°F) 2 limitation intermediate speed	stop p. 40°C (104°F) cm³/1000 strokes rev/min 3 high idle s rev/min 4	stop limitation high idle speed fb rev/min cm³/1000 strokes st	stop limitation intermediate speed high idle speed 50 ldle switching cm³/1000 strokes rev/min 2 117,5 - 119,5 1190-1205* 100	stop limitation nitermediate speed high idle speed 5b ldle switching point cm³/1000 strokes rev/min cm³/1000 strokes 5 117,5 - 119,5 1190-1205* 100 149,0 - 159,	stop limitation high idle speed high idle switching point rev/min cm³/1000 strokes rev/min high idle speed high idle switching point rev/min high idle speed high idle switching point rev/min high idle speed high idle speed high idle switching point rev/min high idle speed high idle switching point high idle speed high idle switching point high idle speed high idle speed high idle switching point high idle speed high idle switching point high idle speed high idle switching point high idle switching point high idle speed high idle switching point
Checking values in brackets

* 1 mm less control rod travel than col. 2

RQV...955 L (2 - 3)

deflection of control	rev/min Control rodtravel	rev/min	(¹a)	rev/min	Control rod travel	Lower rated Degree of deflection of control lever	rev/min	Control rod travel	Sliding sline slin	mm
ca.29	725 750 770 800	16,0-23, 9,3-13, 2,5-11,	8	 <u>-</u>	-		-	-	750	4,6

Torque control travers =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil ten		Rotational-speed (20) limitation intermediate speed	Fuel delivingh idle s	very characteristics 5a speed 5b	Starting to Idle switching		Torque- travel	Control rod
rev/min	cm 🖣 වෙර වෙනkes	revimin . 43	rev/min	cm ³⁷ /10∂0 strokes 5	rev/min 6	cm3/1000 strokes 7	rev/min 8	travel mm 9
(2) 725	98, 5-100, 5	765-770 *				,		
(3) 725	111,5-113,5	765-770*						

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

Upper rated	speed			Intermediate	rated spe	ed	Lower rated	speed		Stic	ding sle	eve travel
Degree of deflection of control lever	rev/min Control rod travel	mm	13 2a	Degree of deflection of control lever		hravel	Degree of deflection of control lever	rev/min	_	3) rev	v/min	mm 11
1	2	3		4	5	6	 	8	9	- ''	'	
	ھر						3 a)					

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter	elivery d stop np. 40°C (104°F) 2	intermediate speed		rery characteristics 5a speed 5b	Starting Idle switchin		travel	Control cod
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	1.	cm ⁴ /1000 strokes	rev/min	mm 9
1	13	3	4	5	6		-	-
			}					,
						İ		

Checking values in brackets

* 1 mm less control rod travel than col 2

Upper rated s	peed			Intermediate	rated spe	ed	Lower rated	speed		Sliding sl	eeve travel
Degree of deflection of control lever	Control rodtravel	Control rod travel mm rev/min	(a) (2e)	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm 1
1	2	3		4	5	6	7	8	9	10	11
ca.36		16,4-22, 12,5-17,								1050	5,9
	1050	8,0-11,	,4		ļ		Í	Ì			
	1110	0									
						,	(3a)				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem	stop	Rotational-speed (2b) timitation intermediate speed	Fuel deliv	very characteristics 5a speed 56	Starting Idle switchir		Torque- travel	Control rod
rev/min	cm ^{\$} 1000 strokes	rev/min 48	rev/min	cm ³)1000 strokes	_	cm3/1000 strokes	rev/min 8	travel mm
(4)	2	3	4	5	6		-	
1050	104, <i>5</i> - 106, 5	1060						
						k .		

recking values in brackets

B. Governor Settings

RQV 250-1050 ABV 12912 (5)

Upper rated s	peed	· · · · · · · · · · · · · · · · · · ·		Intermediate	rated spe	ed		Lower rated	speed		Sliding sl	eeve travel
Degree of deflection	rev/min iControl i	Control rod	(1a)	Degree of deflection	1	Control retravel	od	Degree of deflection	1	Control rod travel		①
	rod travel mm	mm rev/min	(2a)	of control lever	rev/min	mm	4	of control lever	rev/min	mm ③	rev/min	mm
1	2	3		4	5	6		7	8	9	10	11
ca.50	1100	12,2-16	,2	-	-	-		ca.10	100	7,0-11,0	250	0,6-1,2
	1150	7,2-12	,2			1			250	5,8-8,4	800	4,8-5,2
1	1200	1,0-8,	0						350	1,6-4,5	1100	8,7
1	1260	0				1			450	0		
	1								Ì		-	-
								(3a)				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem	p 40°C (104°F) 2	intermediate speed (4a)	_	ppeed 5b cm ³ /1000 strokes	switchir		Torque- travel	Control 5 Control rod travel
rev/min	cm ³ /1000 strokes	rev/min	rev/min 4	5	6	7	8	9
1050	104, 5-106, 5	1060						

Checking values in brackets

* 1 mm less control rod travel than col 2

^{* 1} mm less control rod travel than col 2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MAN 9,7 q

Edition

(1)

PES 6 A 95 D 410 RS2108

ROV 250-1100 AB905DL

supersedes company: A N

RS2108Y

ROV 250-1100 AB905DL

engine D 2156

(1) D 2356 HM/HMN (2)

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1.7 + 0.1

mm (from BDC)

Rotational speed rev/min 1		Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	8,4 - 9,4	0,5			
	6 15	4,0 - 5,0 16,6 - 17,8				
200	9	5,9 - 6,9 [,]				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

..905DL + 2108

1	1	١	
١	Ţ	,	

Upper rated	peed			Intermediate	rated spe	eed	Lower rated	speed	•	Sliding sleeve travel		
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min 3	(18) (28)	Degree of deflection of control lever 4	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min 8	Control rod travel mm 3	rev/min	mm 11	
ca.50	1140 1200 1220 1300	14,4-17 4,0-10 0 - 8 0 - 7	0,6	-	-	-	ca.13	100 200 300 410	7,5-10,2 5,7-8,5 2,5-5,3 0	ŀ	0,5-1,2 3,8-4,1 8,3	
							3 a			-	-	

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem		Rotational-speed 2b limitation intermediate speed	high idle s	ery characteristics 5a	Starting Idle switchin	•	Torque- travel	Control rod travel
rev/min	cfh ³ /1000 strokes	rev/min 40	rev/min	cm ³ /1000 strokes	rev/min		rev/min	mm
1	2	3	4	5	6	7	8	9 .
1100	123, 5-125, 5	1140-1155*	500	max. 119,5	100 250	h.		pecifie omer
20 ⁰ 1100	126, 5-128, 5	1140-1155*	500	max. 122,5	Chang 100-	e-over point 180 min-1		./.

Checking values in brackets

* 1 mm less control rod travel than col. 2

Upper rated sp	peed			Intermediate	rated spe	ed	Lowerra	ted speed		Sliding sl	eeve travel
deflection	Control	Control rod travel	(1a)	Degree of deflection		Control rod travel	Degree of deflection	n	Control rod travel	1	0
	rodtravel mm:	mm rev/min	(2a)	of control lever	rev/min		lever	rev/min		rev/min 10	mm 11
1	2	3		4	5	6		8	9	,0	- ' '
ca.50	1140	14,4-17		-	-	-	ca.1		7,5-10,2	200	0,5-1,2
	1200	4,0-10 0 - 8	-					200 300	15,7-8,5 2,5-5,3	600	3,8-4,1
	1220 1300	0 - 1						410	0	1140	8,3
	ļ								•		
							(3a)				-

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem		Rotational-speed (2b) Ilmitation Intermediate speed	Fuel deliv high idle s	ery characte peed 5b	eristics(5a)	Starting t Idle switchir	g point	Torque- travel	Control rod
rev/min	cm ⁴ 1000 strokes	rev/min 4a	rev/min 4	cm ³ /)1000 s 5	trokes	rev/min 6	mm control- rod travel	rev/min 8	travel mm 9
1100	108, 5-110, 5	1140-1155*	500	max.	104,0	100 250	mind. 18To 7,0 by	be sp custo	
20 ⁰ 1100	111,5-113,5	1140-1155*	500	max.	107,0		 e-over point 180 min ⁻¹		

Checking values in brackets

B. Governor Settings

Upper rated	speed			Intermediate			Lower rated	speed	Control rod	Sliding sl	eeve travel
Degree of deflection of control lever	rod travel	Control rod travel mm rev/min	(1a) (2a)	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	mm 3	rev/min	(1) mm
1	2	3		4	5						
							(3a)				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem		Intermediate speed		Starting Idle switchir	fuel delivery 6	Torque- travel	Control rod	
rev/min	cm³/1000 strokes	rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ⁶ /1000 strokes 7	rev/min 8	travel mm 9
i								
						•		

Checking values in brackets

* 1 mm less control rod travel than col. 2

^{• 1} mm less control rod travel than col 2

WPP 001/4 MAN 9,2 h

Edition

PES 5 A 95 D 410 LS 2445 LS 2445

RO 250/1050 AB 894 DL (1) RQ 250/1150 AB 839 DL (2)

LS 2445 Z RQ 250/1150 AB 839 DL (3)

supersedes

company_MAN D 2555MXUM engine: MXUH

(1/3-175 PS)(2-192 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1.3 + 0.1

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,6 - 8,0	0,4			
	6	3,2 - 4,2				
200	6	0,5 - 1,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1)RQ...894 DL

PFiG che	ck Control rod travel	Full-load : Setting po rev/min 3			rev/min	Idle spec Setting p rev/min 7	Control rod travel		cifications 5 Control rod travel mm	rev/min	Control rod (3)
600	15,6-16,4	600	16,0	1070 1100 1140 1210	14,8-15,2 15,2-15,6 0 - 8,8 0 - 1,5		0	100 250 350 440	7,2-8,0 4,8-7,0 1,6-4,0 0	800 1000	15,6-16,0 15,0-15,4
	Land travel						1	090 -	1105 =		1 mm less control

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F)		Control rod stop 3a	Fuel delive	ery characteristics 3b	Contrac		
rev/min	cm³/-1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /1000 strokes:/ mm 7	
1050	108,5 - 110,5		800 500	112,0 - 114,0 max. 114,5	100	149,0 - 159,0	
1050 20°	110,5 - 112,5 ease by ± 2,0 cm ³	!)	800 500	113,5 - 116,5 max. 116,5	250	7,0 mm RW	

Checking values in brackets

11.76

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Testoil-ISO 4113

RQ...839 DL (2)

Checkin PRG che rev/min 1	Control rod travel	Full-load Setting po rev/min 3		-		Idle spec Setting p rev/min 7	Control rod travel		cifications 5 Control rod travel mm	rev/min	Control rod travel
600	15,6-16,4	600	16,0	1180 1200 1240 1350	15,0-15,6 10,0-14,2 2,0-8,8 0		0	100 250 350 440	7,0-8,0 4,6-6,8 1,6-4,0 0	900 1000	15,8-16,0 15,6-15,8

Torque-control travel on flyweight assembly dimension a =

),2

1190-1205 Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp 40°C (104°F)	Control rod stop (3a)	Fuel delive	ery characteristics 3b	Starting f	d Control
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min	red travel cm ³ /1000 strokes / mm 7
1150	114,5 - 116,5		800 500	115,0 - 118,0 max. 116,5	100	149,0 - 159,0
					250	7,0 mm RW
					:	

Checking values in brackets

B. Governor Settings

LS 2445 Z - AB 839 D (2)

Checking PRG che	g of slider	Full-load s	•	-	cifications (4)	idle spec	_		cifications (5)	Torque o	(3)
rev/min	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel mm 5	rev/min	rev/min 7	Control rod travel mm 8	rev/min	Control rod travel mm	rev/min	Control rod travel mm 12
300	15,6-16,4	600	16,0	1200	15,0-15,6 10,0-14,2 2,0-8,8 0	540	0	100 250 350 440	7,2-8,0 8,4-7,0 1,6-4,0 0		15,6-16,0 15,0-15,4
L	1		0 2	L			+	1190 -	- 1205 =		1 mm less control

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation, At

mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor co		Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting fuel delivery Idle speed		
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min	cm ³ /1000 strokes / mm	
1150	109,5 - 111,5		800 500	112,0 - 115,0 max. 112,5	100	149,0 - 159,0	
1150 60°	112,5 - 114,5		800 500	114,5 - 117,5 max. 115,5	250	7,0mm RW	

Testoil-ISO 4113

Test Specifications Fuei injection Pumps 2 and Governors

WPP 001/4 MAN 11,1 c 3. Edition

PES 6 A 95 D 410 LS 2420Z, Y RQ 250/1150 AB839DL (1-3)

LS 2420 RO 250/1150 AB869DL (4)

LS 2420 Z RQ 250/1050 AB894DL (5) supersedes 8.77

compány: M A N

engine: D 2556..

MXUH/MXUM (1 - 232 PS)

(2 - 200 PS)MUH/MUM

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,3 + 0,1

mm (from BDC)

MXUH/MXUN (3 - 210 PS)

MXUM/MXUH (4 - 192 PS)

MXUM/MXUH (5 - 175 PS)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	g	7,4 - 8,0	0,4			
	6	3,2 - 4,2				
200	6	0,5 - 1,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ .. 839 DL (1)

PRG che	Control rod travel	Full-load s Setting po rev/min 3		rev/min		•	Test spe	cifications 5 Control rod travel mm 10	Torque of rev/min	Control rod (3) travel mm
600	15,7-16,3	600	16,0	15,0-15,4 10,0-14,4 0 - 9	540	0	150 250 350 440	6,6-8,1 4,5-6,7 1,5-4,0 0	1020	15,8-16,0 15,4-15,6 15,3-15,4
Torque-c	control travel	l	0,2		1	11	90 -	1205 =	L	1 mm less control

Torque-control travel on flyweight assembly dimension a =

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test oil terr	elivery on ontrol lever op 40°C (104°F)	Control rod stop 33	Fuel delive	ery characteristics (3b)	Starting for Idle spee	d Control
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min 6	red travel cm ³ /1000 strokes:/ mm 7
2420	+ 839 DL -20 ^C					
1150 40 ⁰	120,5 - 122,5	C, col.6-7	800 500	118,5 - 121,5 max. 121,5	100	11,9 - 12,9 (14±0,3 mm RW)
1150	117,5 - 119,5		800 500	116,0 - 119,0 max. 118,5		

Checking values in brackets

Testoil-ISO 4113

B. Governor Settings

RQ .. 839DL (2)

Checking of Slider PRG check Control rod		Control Control			cifications (4)	Control Control rod			Control rod	Control rod	
rev/min	travel mm	rev/min	rod travel	rod travel	rev/min	rev/min	rod travel	rev/min	travel mm	rev/min	travel mm
1	2	3	4	5	6	7	8	9	10	11	12
600	15,7-16,3	600	16,0	1170 1200 1250 1320	15,0-15,4 10,0-14,4 0 - 9		0	150 250 350 440	6,6-8,1 4,5-6,7 1,5-4,0	1020	15,8-16,0 15,4-15,6
			0.0					100	1005	1100	15,3-15,4

Torque-control travel on flyweight assembly dimension a =

0,2

1190 - 1205

1 mm less control rod travel

rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F)		Control rod stop	Fuel deliv	ery characteristics 3b	Starting f	uel delivery	
rev/min	cm ³ /-1000 stro	okes	rev/min	rev/min	cm ³ /~1000 strokes	rev/min	rod travel cm ³ /1000 strokes / mm 7
2420Z		DL - 20 [°]	4	800	108,0 - 111,0	100	11,9 - 12,9
1150 40 ⁰	106,0 -	108,0	*	500	max. 106,5	250	(14±0,3 mm RW) 7 mm RW
1150	103,0-	105,0		800 500	105,5 - 108,5 max. 103,5		

Checking values in brackets

B. Governor Settings

RQ .. 839 DL (3)

PRG che	Control rod travel	Full-load s Setting po			cifications 4	Setting p	Control rod travel	Test spe	cifications Control rod travel	Torque o	Control rod (3)
rev/min	2	3	4	5	6	7	8	9	10	11	12
600	15,7-16,3	600	16,0		I .		0	150 250 350 440	6,6-8,1 4,5-6,7 1,5-4,0 0	1020	15,8-16,0 15,4-15,6 15,3-15,4
			0.3				1	190	1205 =		1 mm less contro

on flyweight assembly dimension a mm Speed regulation At

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on ontrol lever p 40°C (104°F)	Control rod stop	Fuel delive	ery characteristics (3b)	Starting for	uel delivery d Control
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes	rev/min	rod travel cm ³ /1000 strokes / mm 7
2420Y	+ 839 DL - 20°					
1150 40 ⁰	109,5 - 111,5	* C, col.6-7	800 500	109,0 - 112,0 max. 112,0	100 250	11,9 - 12,9 (14±0,3 mm RW) 7 mm RW
1150	106,5 - 108,5		800 500	106,5 - 109,5 max. 109,0		

rod travel

Testoil-ISO 4113

on flyweight assembly dimension a =

	g of slider	Full-load		-		Idle spec	_			Torque o	\sim
PRG che rev/min 1	Control rod travel	rev/min	Control rod travel mm	Test spec Control rod travel mm 5	rev/min	Setting prev/min	Control rad travel		Control rod travel mm	rev/min	Control rod travel mm
600	15,7-16.3	600	16,0		15,6-16,0 11,0-15,0 0 - 9,6 0	550	0	120	6,5-8,1 4,7-6,9 1,7-4,2	-	-
forque-c	ontrol travel		0				1	190	- 1205 =		1 mm less confro

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test Oil temp 40°C (104°F)		Control rod stop	Fuel delive	ery characteristics 3b	Starting fuel delivery idle speed		
rev/min	cm ³ /-1000 strokes	rev/min	rev/min	cm ³ /-1000 strokes 5	rev/min	cm ³ /1000 strokes / mm 7	
2420	+ 869 DL - 20 ⁰						
1150	124,5 - 126,5	*	500	max. 121,5	100	11,9 - 12,9 (14 <u>+</u> 0,3 mmRW)	
40 ^O					250	7 mm RW	
1150	121,5 - 123,5		500	max. 118,5			

Checking values in brackets

B. Governor Settings

RQ	894DL	(5)	-
----	-------	-----	---

Checkini PRG che rev/min	Control rod travel	Full-load : Setting po rev/min 3	•	_	rev/min	\ \	Control rod travel		cifications 5 Control rod travel	rev/min	Control rod (3)
600	15,7-18,3		16,0	1079 1100 1140 1200	14,8-15, 8,4-13, 0 - 8,	5	0	100 250 350 440	7,1-8,1 4,7-6,9 1,6-3,9		15,8-16,0 15,0-15,2
	ontrol travel ght assembly dimer	nsion a =	0,3	mm	s	peed regul	ation At	1090	- 1105 =	1	t mm less contro rod trave

Torque-control travel on flyweight assembly dimension a = C. Settings for Fuel Injection Pump with Fitted Governor

		•				
Full-load delivery on governor control lever Test on temp 40°C (104°F)		Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting findle spee	uel delivery d ; Control
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes	rev/min	cm ³ /1000 strokes / mm
2420Z	+ 894 DL-20 ⁰				<u> </u>	
1050	91,5 - 93,5	* C, col. 6-7	800 500	93,0 - 96,0 max. 92,5	100	11,9 - 12,9
40 ^O					250	7 mm RW
1050	88,5 - 90,5		800 500	90,5 - 93,5 max. 89,5		

		ı
/		٦
•	2	
`	•	

Checkin PRG che	~	Full-load : Setting po	•	-	cifications (4)	Idle sper	-		cifications (5)	Torque ((3)
rev/min	Control rod travel mm 2	rev/min 3	Control rod travel rmm	Control rod travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm	rev/min	Control rod travel mm 12
600	15,7-18,3	600	16,0	1070 1100 1140 1200	14,8-15,2 8,4-13,5 0 - 8,8 0	540	,	100 250 350 440	7,1-8,1 4,7-6,9 1,6-3,9	750 1050	
	ontrol travel ght assembly dimer	nsion a =	0,3	mm	Spe	eed regula		90 -	1105	<u>.</u>	1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np 40°C (104°F)	Control rod stop 38	Fuel delive	ery characteristics 3b	Starting f	Control
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min 6	rod travel cm ⁸ /1000 strokes / mm 7
2420	+ 894DL			:		
1050	101,5 - 103,5	*	700	100,0 - 103,0	100	11,9 - 12,9
			500	max. 103,5	250	7 mm RW
			<u> </u>	•		f
			•	! :		i.
				E L Accommendation of the second second	.	i

Checking values in brackets

B. Governor Settings

Checking of si PRG check	ider				Idle speed regulation Setting point Test specifications (5)				Torque control (3)		
Cont trave rev/min mm 1 2	rol rod	rev/min	Control rod travel mm	Control rod travel mm 5	rev/min	rev/min	Control rod travel mm 8	rev/min	Control rod travel mm 10	rev/min	Control rod travel
600 15	,7-18,3	600	16,0	1070 1100 1140 1200			0		7,1-8,1 4,7-6,9 1,6-3,9 0	750 1050	15,8-16,0 15,0-15,2

Torque-control travel on flyweight assembly dimension a =

0,3

Speed regulation 2,090 - 1105

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on ontrol lever op 40°C (104°F)	Control rod stop 3	Fuel delive	. (DL)	Starting fi Idle spee	d Control
rev/min 1	cm ³ /~1000 strokes	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	rod travel cm ³ /1000 strokes / mm 7
2420Z 1050	+ 894 DL-20° 91,5 - 93,5	* C, col.6-7	800 500	93,0 - 96,0 max. 92,5	100	11,9 - 12,9
40° 1050	88,5 - 90,5		800 500	90,5 - 93,5 max. 89,5	250	7 mm RW

Test Specifications 2 Fuel Injection Pumps 2 and Governors

WPP 001/4 MAN 12,8 c

1. Edition

PE 8 A 95 D 320 LS2421

(1)RQ 250/1200 AB928DR (2) RQ 250/1150 AB940DR

supersedes

company: M A N

engine: D 2548 M/MF

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,65-1,85)

mm (from BDC)

Cy1.8

Rotational speed	Control rod travei mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,6 - 8,0	0,4			
	6	3,2 - 4,2				
200	6	0,5 - 1,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ..928DR (1)

Checking PRG che rev/min	ck (1) Control rod (1) Itravel	Full-load s Setting po rev/min		Test spec Control rod travel		Idle spee Setting p rev/min 7	Control rod travel	Test spe	cifications (5) Control rod travel mm 10	rev/min	Control rod (3) travel mm
600	15,6-16,4	600	16,0	1220 1260 1300 1370	15,6-16,0 9,5-14,0 0 -9,5 0 -1,5		0	150 250 350 440	6,7-8,1 4,8-6,9 1,6-4,0 0 - 1	-	-
	- atal traval		0			<u> </u>	<u> </u>	245 -	1260 =	1	1 mm less contro

Torque-control travel on flyweight assembly dimension a =

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor co Test oil tem	elivery on ontrol lever · op. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting for Idle spee	Control
rev/min 1	cm ³ /~1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /1000 strokes:// mm 7
1200	110,5 - 112,5				100 250	18,2-18,8 7,0

Checking values in brackets

RQ..940DR (2)

2

PRG che	ck Control rod Itravel	Full-load s Setting po revimin 3			rev/min	Idle spee Setting p rev/min 7	-		cifications (5) Control rod travel mm 10	Control rod (3) Control rod (1) travel mm 12
600 1190	19,2-20,8 Breakaway	1	trol r	1170 1210 1250 1320	18,4-18,8 10,2-16,0 0 - 10 0 -1,5		0	150 250 350 440	9,2-11,7 6,4-9,7 2,2-5,8 0 - 1	19,7-20,0 18,8-19,2

Torque-control travel on flyweight assembly dimension a

0,3

1195 - 1210 =

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor ce Test oil tem	/ 1	Control rod stop (3a)	Fuel delive	(31-)	Starting fi Idle spee	Contrat
rev/min	cm ³ /-1000 strakes 2	rev/min 3	rev/min 4	cm ³ /-1000 strakes 5	rev/min 6	cm ³ :1000 strokes / mm 7
LDA 1150	0,5 bar 122,5 - 124,5		LDA 800 LDA 500	0,5 bar 126,5 - 130,5 0 bar 84,5 - 86,5	100 250	18,2-18,8 * 7,0
*	Briefly switch o	n starting sole	noid 2	4 V !		

Checking values in brackets

D. Adjustment Test for Manifold Pressure Compensator

Test at n = 800 rev/min decreasing pressure - in bar gauge pressure

restain = 000			
Pump/governor	Setting	Measurement	diminution Control rod travel:
	Gauge pressure = bar	Gauge pressure : bar	mm
2421 + 940DR	0,25		- 0,2 - 0,3
		0,15	- 0,9 - 1,1
1	<u> </u>	<u> </u>	<u> </u>

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps 2 and Governors

VDT-WPP 001/4 MAN 9,2 a

6. Edition

PES 5 A 95 D 410 LS 2426 Z

RQ 250/1150 AB 839 DL

supersedes 3.84

D 2555 M/MF

Komb.-Nr. 0 400 845 022 = MAN-Nr. 1-7528

124 kW/2300 min-1

1 - 3 - 5 - 4 - 2 je $72^{\circ} + 0,5^{\circ} (+ 0,75^{\circ})$

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,3 -1,4 (1,25-1,45) mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery m³/100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,5 - 8 0	0,4			
, 500	6	3,2 - 4,2	1			
200	6	0,5 - 1,4				
·						

Adjust the fuel delivery from each outlet according to the values in

E. Governor Settings

Checkin	g of slider	Foli-load speed regulation Setting point Test specif			cifications (4)	Idle speed regulation Setting point Test specification			cifications (5)	Torque control 3	
rev/min	Control functions of travel of the control function of	rev/min	Control rod travel rrarra	Control red travel rnm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min 11	Control rod (travel)
600	15,7-16,3	600	16,0		15,0-15,4 10,0-14,4		0	150 250	6,6-8,1 4,5-6,7		15,8-16,0 14,4-15,6
	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			1250 1320	l			350 440	1,5-4,0	1000	15,3-15,4
	control travel	nsion a =	0,2) mm	Sp	eed regul		190 -	1205 min	1	1 mm less contro

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test oil ten		Control rod stop 3	Fuel delive	(2)	Starting for Idle spee	Control
rev/min 1	cm³/-1C^C strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	cm ³ /1000 strokes:// mm
1150	100.5 - 102,5 (98,5 - 104,5)	-	800 500	104,0 - 107,0 (102,0 - 109,0) max. 103,5 (max. 105,5)	100	146,5-156,5 =15,7- 16,3 mm RW

Checking values in brackets

10.85

Checking of slider PRG check Control rod rev/min 1 2 5 600 16,0 1200 100,0-14,4 1250 0 9 1320 0 15,3-15,4 1200 100 1320 0 15,3-15,4 1200 100,0-14,4 1200 1320 0 15,3-15,4 1200 10,0-14,4 1	B. Go	overnor S	etting	JS					+	2426 Z		
1200 10,0-14,4 250 4,5-6,7 1020 15,4-15,6 1250 0 - 9 350 1,5-4,0	PRG che	ck Control rod travel	Setting p	Control rod travel	Test spec Control rod travel mm	rev/min	Setting	Control rod travel mm	Test spe	Control rod travel mm	rev/min	Control rod (3) travel mm
	600	15,7-16,3	600	16,0	1200 1250	10,0-14,4 0 - 9	I.	0	250 350	4,5-6,7 1,5-4,0	1020	15,4-15,6

Torque-control travel on flyweight assembly dimension a =

0,2

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on ontrol lever np. 40°C (104°F)	Control rod stop 3a	Fuel delivi	ery characteristics 3b	Starting for	uel delivery d Control
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min 6	red travel cm ³ /1000 strokes / mm 7
2426Z 1150	100,5 - 102,5		800	104,0 - 107,0	100 250	11,9 - 12,9 7 mm RW
						./.

Checking values in brackets

B. Governor Settings

Checking PRG che	g of slider ck (1)	Full-load : Setting po		-	cifications (4)	dle speed regulation Setting point Test specifications (()		
	Control rod travel mm	rev/min	Control rod travel	Control rod travel mm	rev/min	rev/min	i	rev/min	!	rev/min	
1	2	3	4	5	6	7	8	9	10	11	12
								1			
						İ					
:			İ								

Torque-control travel on flyweight assembly dimension a =

Speed regulation At

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

Control rod travel
strokes rev/min cm³/1000 strokes / mm 6 7

B. Gove	ernor	Setting	gs					+ 2	426 i	MAN 9,	,2a
Upper rated s Degree of	effection Control travel			deflection travel			Lower rated speed Degree of deflection Control rod travel			Sliding sleeve travei	
of control lever	rodiravel		(2a)	of control lever 4	rev/min	mm 4	of control lever	rev/min 8	mm 3 9	rev/min 10	mm 11
ca.50		1,0-	1,0				ca.13	50 150 250 350 410	7,7-11,0 6,6- 9,8 4,2- 7,2 0 - 3,4	480 800 1180 1100	0
							За			500	0,3-0,5

Torque control travel a =

0,4 mm

C. Settings for Fuel Injection Pump with Fixted Governor

Full-load de Control-rod Test oil tem	•	Rotational-speed (2b) limitation intermediate speed	Fuel deliv high idle s	ery characteristics 5a peed 5b	Starting I Idle switchin		Torque- travel	Control rod
rev/min	cm 1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm³r1000 strokes 7	rev/min 8	travel mm 9
1150	114,5-116,5	1190-1205	800 500	115,0-118,0 max. 226,5	250 ***	119,0-129,0 7 mm RW 100 min ⁻¹		
**								

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

850 D + 2426 Z

Upper rated s	peed	······································		Intermediate	rated spe	ed	Lower rate	t speed		Sliding sl	leeve travel
Degree of deflection	rev/min	Control rod	(ta)	Degree of deflection	ł	Control rod travel	Degree of deflection	ı	Control rod travel		0
	rod travel		(2a)	of control lever	rev/min	mm (4	of control lever	rev/min	mm ③	rev/min	mm
1.	2	3		4	i .5	6	7	8	9	10	11
ca.50	1170 1220 1280 1350	9,0-14 1,0-	1,0				ca.15	50 150 250 350	7,7-11,0 6,6- 9,8 4,2- 7,2 0 - 3,4	480 800	0,5-1,2 3,2-4,0 5,0-5,4 8,4
							3a)	410	0	1100 500	0 0,3-0,5

Torque control travel a =

0,4 _{mm}

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem	stop p 40°C (104°F) 2	Rotational-speed (2b) Ilmitation intermediate speed (4a)	Fuel deliv high idle s	ery characteristics 58 peed 50	Starting Idle switchir	ig point	travel	Control rod travel
rev/min	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm 1/1000 strokes	rev/min	mm
1	2	3	4	5	6	7	В	9
1150	109,5-111,5	1190-1205 ⁺	800	112,0-115,0		119,0-129,0		
		İ	500	max. 112,5	250	1	oint	
					•	100 min ⁻¹		
					100	-100 11111		
** (in	crease by ± 1	,0 cm ³ !)					<u> </u>	

Checking values in brackets

* 1 mm less control rod travel than col 2

40

WPP 001/4 MAN 11,1 p 5

2. Edition

estoil-ISO 4113

PES 6 A 95 D 410 LS 2542 RQ 250/1100 AB 1052 DL

supersedes

10.79

company:

MAN-SAVIEM

engine:

D2566 MSH (177,0kW-241PS)

All test specifications are valid for Bosch Fuel Injection Fump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Rotational spee

1100

250

rev/min

mm (from BE

prest	roke (1,	45-1,65)	mm (trom BDC)	,		
ed	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
	12.0-12.1	12,5 - 12,7	0,3(0,6)			
	5,9-6,1	0,8-1,4	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	ck Control rod travel	Full-load s Setting po rev/min 3	•		rev/min	Idle spee Setting p rev/min 7	Control rod travel	Test spe	cifications 5 Control rod travel	1	Control rod travel
600	19,2-20,8	600	20,0	11,0	1145-1160	250	6,0	100	min.7,5		
Cont	rol lever			4,0	1190-1220			250	5,9-6,1		
ca.	46°			1300	0 - 1,	þ		500	max.1,0		
								335-	375=2,0		

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation. At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c	elivery on ontrol lever np. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting for idle spee	d Control
rev/min	cm³/-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min 6	nd travel cm ³ /1000 strokes:/mm 7
1100	124, 5 - 126, 5 (122, 5 - 128, 5)		500	max. 113,5 (max. 115,5)	100	125,0 - 135,0 14,0-14,6 mm RW

Checking values in brackets

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 MAN 11,1 k

Edition

PES 6 A 95 D 410 LS2489 RQ 250/1050 AB894D LS2489Z RQ 250/1050 AB894D ./. supersedes 2.76 MAN company:

D 2566 MUH (192 PS)

> D 2566 MUH/M (175 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

1,50-1,60 (1,45-1,65) mm (from BDC) Port closing at prestroke

Rotational speed	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1050	10,0	10,3 - 10,4	0,3 (0,6)		8,9 - 9,1	
	(+0,1)			(+0,1)		
250	6,0 (-0,1)	1,2-1,8	0,3 (0,5)	(±0,1)	0,9 - 1,3	
709/500 -	Sect. C	col. 4,5	0,4 (0,7))		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking PRG che rev/min 1	ck Control rod travel	Full-load s Setting po rev/min 3		Test spec Control rod travel	ifications (4)	Idle spee Setting p rev/min 7	Oint Control rod travel	Test spec	cifications 5 Control rod travel	rev/min	Control rod travel
600	15,7-16,3	600	16,0	1070 1100 1140 1200	14,8-15,2 9,4-13,5 0 - 8,8 0		0	100 250 350 440	7,1-8,1 4,7-6,9 1,6-3,9		15,8-16,0 15,0-15,2

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F)		Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting for Idie spee	Control
rev/min	cm³/-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min 6	ret travel cm ³) 1000 strokes / mm
1050	101,5 - 103,5		700	100,0 - 104,0	100	11,9 - 12,9
	(99,5 - 105,5)			(98,0 - 106,0)	250	6,0 mm RW
			500	99,5 - 103,5 (97,5 - 105,5)		

Checking values in brackets

8.77

BOSCH

Checking PRG che rev/min	g of slider ck Control rod travel mm 2	Full-toad s Setting po rev/min 3			rev/min	Idle spee Setting p rev/min 7	Control rod travel		cifications 5 Control rod travel mm	rev/min	Control rod (3)
600	15,7-16,3	600	16,0	1070 1100 1140 1200	14,8-15,2 9,4-13,5 0 - 8,8 0	530	0	100 250 350 440	7,1-8,1 4,7-6,9 1,6-3,9 0	750 1050	15,8-16,0 15,0-15,2

Torque-control travel on flyweight assembly dimension a

0,3

Speed regulation At 1095-1110(1090-1115)

mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

lo	Full-load delivery on governor control lever Test oil temp. 40°C (104°F)		Control rod stop 3a	Fuel deliv	very characteristics 3b	Starting fuel delivery Idle speed Control		
	rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /1000 strokes / mm	
	1050	87,5 - 89,5 (85,5 - 91,5)		800	91,5 - 94,5 (89,5 - 96,5)	100	11,1 - 11,9	
		(65, 5 - 71, 5)	İ	500	84, 5 - 88, 5 (82, 5 - 90, 5)	250	6,0 mm RW	
)	1050	89,5 - 91,5		800	91,0 - 94,0			
				500	83,5 - 87,5	<u> </u>		

Checking values in brackets

B. Governor Settings

PRG che	Control rod travel	Full-load s Setting po	Test spe	rev/min	rev/min	Control rod travel	cifications Control rod travel	forque o	Control rod travel
	2	3							
	-								

Torque-control travel on flyweight assembly dimension a

mm

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor o Test oil ten	elivery on ontrol lever np 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting for Idle spee	d Control rod travel
rev/min	cm ³ /- 1000 strokes	rev/min 3	rev/min	cm³/-1000 strokes 5	rev/min 6	cm ³ /1000 strokes / mm 7
						•

WPP 001/4 MAN 11,1 g 1

Edition

(1)

PES 6 A 95 D 410 LS2485Z

RQ 250/1100 AB839DL

supersedes 8.77 MAN company:

LS2485Y

RQ 250/1100 AB839DL (2)

D 2566 ... engine: (1-220 PS)

LS2485Y

RQ 250/1100 AB965DL (3) MSFV (2- 220 PS) MFO/MFOR

(3-200 PS)MFO/MFOR

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Rotational speed	Control rod	Fuel delivery Z, Y + 839DL cm³/100 strokes	Difference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery Y + 965DL cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	11,2+0,	1 11,2 - 11,4	0,3(0,6)	10,0 (+0,1)	10, 1 - 10, 3	
250	5,9-6,1	1,1-1,7	0,3(0,5)			
•						<u> </u>

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

839DL (1)

		Full-load s Setting po rev/min		Test spec Control rod travel	rev/min		idle spee Setting p rev/min 7	oint Control rod travel	Test spe	cifications 5 Control rod travel	rev/min	Control rod travel
600	15,6-16,4	600	16,0	10,2 4,0 1300	1145-1 1175-1	.205		6,0	250	min. 7,5 5,9-6,1 400 = 2,0 max.1,0	800	11,2-11,3 11,5-11,6 11,5-11,7
								1	145.1	160 min =1		1 mm less contro

Torque-control travel on flyweight assembly dimension a = 0,2

1145-1160 min

rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor co	elivery on ontro! lever p. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting fu Idle speed	Control	
	cm³/-1000 strokes	rev/min	rev/min	cm ³ /~1000 strokes 5	rev/min 6	red travel cm ³ /1000 strokes:// mm 7	
1100	112,0 - 114,0 (110,0 - 116,0	-	800 500	114,5 - 117,5 (112,5 - 119,5) 111,0 - 114,0 (109,0 - 116,0)	100 250	114,0-120,0 (111,0-123,0) 6,0	

Checking values in brackets

Y + 839DL (2)

Constituting or street					1	Idle speed regulation Setting point Test specifications (5)				control 3	
_	Control rod travel	rev/min	Control rod travel mm	Control rod travel mm 5	rev/min	rev/min	Control rod travel	rev/min 9	Control rod travel mm .	rev/min	travel
600	15,6-16,4	600	16,0		1145-1160	ļ	6,0	250	5,9-6,1		11,2-11,3
1100 1300	** 0 - 1			4,0	1175-1205			340- 500	400 = 2,0 0 - 1	800	11,5-11,6

Torque-control travel on flyweight assembly dimension a

0,2

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np 40°C (104°F)	Control rod stop	Fuel delive	ery characteristics 3b	Starting fi Idle spee	uel delivery d (Control
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /1000 strokes / mm 7 mm RW
1100	112,5 ~ 114,5 (110,5 - 116,5)		800	114,5 - 117,5 (112,5 - 119,5)	100 250	13,0-13,6
			500	110,5 - 113,5 (108,5 - 115,5)	250	6,0

Checking values in brackets

B. Governor Settings

Y + 965DL (3)

Checkini PRG che		Full-load s	-		citications (4)	idle spee Setting p	ooint		cifications 5	Torque o	(3)
rev/min	Control rod travel mm	rev/min 3	Control rod travel mm	Control rod travel mm 5	rev/min	rev/min	Control rod travel mm 8	rev/min 9	travel mm	rev/min	Control rod travel mm
600	15,6-16,4	600	16,0	9,0 4,0			6,0	250	min.7,9 6,3-6,5	_	-
1100 1300	**Breakaw	ay		.,0				360-4 500	20 = 2,0 0 - 1		

Torque-control travel on flyweight assembly dimension a -

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load do governor c Test oil ten	elivery on ontrol lever p 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting fuel delivery Idle speed		
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min	cm³/-1000 strokes 5	rev/min 6	rod travel cm ³ /1000 strokes / mm 7	
1100	99,5 - 101,5 (97,5 - 103,5)		500	86,5 - 91,5 (84,5 - 93,5)	100 250	13,6-14,2 6,0	

Test Specifications
Fuel Injection Pumps (2)
and Governors

40

WPP 001/4 MAN 11,1 f

1. Edition

<u>En_</u>

PES 6 A 95 D 410 LS2489Z

RQ 250/1100 AB 839D

supersedes

company: MAN

engine: D 2566 MXUM(220PS)

MXUH

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,5 - 1,6

mm (from BDC)

(1,45-1,65)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) .nm 6
1000	9	7,4 - 8,0	0,3 (0,6)			_
	6	3,2-4,2	(0,0)			
200	6	0,5-1,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking PRG che rev/min 1	ck Control rod travel	Full-load s Setting po rev/min 3	•	-	\sim	Idle spec Setting p rev/min 7	Control red travel	Test spe	cifications 5 Control rod travel mm	 Control rod (3) travel mm
600	15,7-16,3	600	16,0	1100 1150 1200 1250	15,1-15,4 9,0-14,0 0 - 7,2 0	540	0	200	6,9-8,1 5,6-7,6 3,3-5,5 0	15,8-16,0 15,3-15,5

Torque-control travel on flyweight assembly dimension a =

m Speed regulation: At

mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

. L.	Full-load delivery on governor control lever Test oil temp. 40°C (104°F)		Control rod stop 3a	Fuel delive	(AL)	Starting fuel delivery Idle speed Control		
	rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	cm³/1006 strokes:/ mm	
20 ⁰	1100	114,5 - 116,5		700 500	110,5 - 113,5 max. 116,0 -	100	111,0 - 119,0	
40 ⁰	1100	112,0 - 114,0		700 500	107,0 - 110,0 max. 113,0	250	6,0 mm RW	
	•							

Checking values in brackets

2.76

D16

BOSCH

Test Specifications Fuel Injection Pumps (1A) and Governors

40

WPF 001/4 MAN 9,2 m

1. Edition

En

PES 5 A 95 D 410 LS2543

RSV 250-1100 A1 B1124L

supersed€s

company RVI-SAVIEM engine MAN D2565MSFV

1 - 3 - 5 - 4 - 2 0 -72 -144-216-288°

+0,50 (+0,75)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,50-1,60 (1,45-1,65)

mm (from BDC)

Cy1. 5

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)	
rev/mເກ 1	mm 2	cm³/100 strokes 3	cm ² / 100 strokes 4	mm 2	cm ⁹ /100 strokes	mm 6	
1100	12,0-12,1	11,7 - 11,9	0,3(0,6)				
250	7,4-7,6	0,9-1,5	0,3(0,5)				
750/500		C, 4-5	0,4(0,7)				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Орре	r rated speed	rev/min	Intermediate rated speed			(4)	Lower	3 Torque contro!		
Degree of deflection of control lever 1	Control rod travel mm	Control rod travel mm rev/min 3	4	5	6	Control- lever deflection in degrees 7	rev/min 8	Control rod travel mm	rev/min	Control rod travel mm
loose	800 X =	0,3-1,0 3,5				ca.21	250 100 250	7,0 min. 19 7,4-7,6	1100 930	12,0-12,1 12,3-12,5
ca.57		150=11,0 190=4,0 = 0,3-1,7					455-515 575	2,0 0-1	550	12,6-12,7

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp 40°C (104°F)	Rotational- speed limitat		el delivery aracteristics	Starting fuel delivery 5 4a				
rev/min	cm ³ /1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm:/1000 strokes 7	rev/min 8	Control rod travel mm	
1100	115,5 - 117,5 (113,5 - 119,5)	1140-1150	750	110,5 - 113,5 (108,5 - 113,5)	100	149 - 159			
			500	max. 111,5 (113,5)					

Checking values in brackets

* 1 mm less control rod travel than col 2

10.79

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung c. 1980 by Robert Bosch GmbH. Postfech 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en Republique Federale d'Allemagne par Robert Bosch GmbH.

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 MAN 9,2 g

Edition

supersedes

RO 250/1050 AB 839 DL

company: MAN

D 2565 MUH enaine:

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

PES 5 A 95 D 410 LS 2503

Port closing at prestroke

mm (from BDC)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torqua-control valve) mm 6
1050	10,9	11,3 - 11,5	0,3 (0,6)			
	(+0,1)					
250	5,5-5,7	0,6-1,2	0,3 (0,5)			
800/500	Sect. C	col. 4,5	0,4 (0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Chec PRG	ched	ck Control rod travel	Full-load s Setting po rev/min	Control	Test spec Control red travel	rev/min	Idle spee Setting p rav/min 7	Control rod travel	Test spe	cifications 5 Control rod travel mm	rev/min	Control rod travel
6	00	15,6-16,4	600	16,0	9,9	1095-1110	250	5,6	100	mind. 7,1	1050	10,9-11,0
10	70	15,0-15,4			4,0	1130-1160			250	5,5 - 5,7	800	11,2-11,4
12	50	0 - 1							330-	390=2,0	500	11,4-11,6
									450	0 - 1		12,111,0

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	Salivery on control lever pp. 40°C (104°F)	Control rod stop (3a)	Fuel delivery characteristics			uel delivery d Control
røv/min	cm ³ /-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes	rev/min 6	red travel cm ³ /1000 strokes:/ mm 7
1050	111,5 - 113,5 (109,5 - 115,5)		800 500	113,0 - 116,0 (111,0 - 118,0) 111,5 - 114,5	100	13,7 - 14,3
.1050 (20 ⁰)	114,5 - 116,5		800 500	(109, 5 - 116, 5) 115, 0 - 118, 0 114, 5 - 117, 5	250	6,0
						12.74

Checking values in brackets

12.76

Geschaftsbereich KH. Kundendienst. Kfż-Ausrustung. € 1980 by Robert Bosch GmbH, Postlach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

2

Festoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 MPP 001/4 MAN 9,7 m 1 and Governors

2. Edition

PES 6 A 95 D 420 LS2328

RQ 200/1100 AB782DR

supersedes 3.76 MAN

company:

* When performing repairs, all motors D 2356 HMXU must be changed to D 2356 HMYU in accordance with test

D 2356 HMYU* engine:

specifications below!

(220 PS)*

Assy. No. 0 400 846 239

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2.0 + 0.1

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7.5 - 8.0	0,5			_
	6	3,2 - 4,2				
200	6	0,5 - 1,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG cher		Full-load s Setting po rev/min 3	•	Test spec Control rod travel		Idle spee Setting p rev/min 7	Control rod travel	Test spe	cifications 5 Control rod travel	rev/min	Control rod	3
600	15,7-16,3	600	16,0	1120 1150 1180 1240	15,6-16,0 9,0-14,2 0 - 16 0	550	0	100 200 300 450	6,6-8,1 5,4-7,3 3,3-5,3 0	-	-	

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

elivery on control fever np. 40°C (104°F)	Control rod stop	Fuel delive	ery characteristics	Starting for Idle spee	Control
cm ³ /-1000 strokes	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	red travel cm ³ /1000 strokes / mm 7
125,5 - 127,5 (123,5-129,5)	500	800	125,0 - 128,0 (123,0-130,0)	100	14,0-14,4 mm
		500	max. 122,5 (max. 124,5)	200	6,5 mm
	ontrol lever np. 40°C (104°F) cm³/-1000 strokes 2 125, 5 - 127, 5	ontrol lever (2) (3a) rev/min 2 rev/min 3 500	ontrol lever (2) (3a) cm³/-1000 strokes rev/min 3 rev/min 4 125, 5 - 127, 5 500 800	Control lever Control leve	Control lever Control leve

Checking values in brackets

Test Specifications Fuel Injection Pumps and Governors

40

WPP 001/4 MAN 7,2 i

1. Edition

En

PES 6 A 85 D 410 RS2139

EP/RSV 325-750 A7 B 536DL

supersedes

company M A N

engine

D 0836 HM

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,5+0,1 mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm 6
1	2	3	4	2	3	
1000	9	4,1 - 4,5	0,4			
	6	0,6 - 1,4				ĺ
200	9	1,4 - 2,2				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper Degree of deflection of control lever	rated speed	Control rod travel rom	Intermediate Degree of deflection of control lever	rated spe rev/min 5	Control rod travel mm	4 Lower Degree of deflection of control lever 7	rated spe rev/min 8	control rod travel mm	3 Tor	que control Control rod travel mm
ca.44	750 770 790	16,0 11,8 7,2	withou spring		iliary	ca.19	325 100 325	6,0 19 - 21 5,7-6,3	750 400	0 0,4-0,6
5	780 850 920	7,2-10,2 1,6-3,4 0,3-1,0	with a spring		ary		400 550	3,3-4,6 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-to	ad stop			Starting Idle	fuel delivery	5a) idle stop		
Test oil tem rev/min 1	p. 40°C (104°F) cm³/1000 strokes	Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9
750	52,5 - 54,5	780-790 *			100	mind. 20 mm RW		

Checking values in brackets

* 1 mm less control rod travel than col. 2

3.76

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps WPP 001/4 MAN 5,9 g

and Governors

1. Edition

PE 6 A 65 D 410 RS 1059

EP/RSV 325-750 A1 B537DL

supersedes

companyM A N

engine: D 0026 M - TME

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,9 - 2,0

mm (from BDC)

max. RW

Rotational speed	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1000	9	3,9 - 4,2	0,3			
	6 12	1,1 - 1,8 5,8 - 6,5			·	
200	6	0,6 - 1,3				

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper Degree of deflection of control lever	rated speed rev/min	Control rod travel mm	Intermediate Degree of deflection of control lever	rated spe rev/min 5	ed Control rod travel mm 6	4 Lower Degree of deflection of control lever	ratad spe rev/min 8	Control rod travel		que control Control rod travel mm
ca.44	750 770 790	16,0 11,8 7,2	withou spring		iliary	ca.19		6,0		0 0,4-0,6
5	780 850 920	8,2-10,2 1,6-3,4 0,3-1,0	with a spring		ıry		325 400 550	5,7- 6,3 3,3- 4,6 0 - 1,0	•	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-loa	d stop	6 Rotational- speed limitat.		l delivery racteristics	Starting Idle	fuel delivery	stop
	1	Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	Control rod travel mm 9 .
750	56,0 - 58,0	760-770			100	min.20mm RW	
- Re-	heck on engi	e!!					

Checking values in brackets

* 1 mm less control rod travel than col. 2

1.79

Testoil-ISO 4113

WPP 001/4 MAN 3,9 b

Edition

En

PE 4 A 65 D 410 RS 1072 EP/RSV 325-750 A1 B537DL

supersedes

company:

MAN D 0024 M .. engine:

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	cm ³ / 100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
	6	1,4 - 2,1				
1000	12	5,7 - 6,2	0,4			
	18	9,7 - 10,6				
200	6	0,8 - 1,6				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper Degree of deflection of control lever	rated speed	Control rod travel mm	Intermediate Degree of deflection of control lever	rev/min	Control rod travel mm	4 Lowe Degree of deflection of control lever 7	rev/min	Control rod travel mm	(3) Tor rev/min 10	que control Control rod travel mm
ca.41	750 800 830	16,0 10,1 5,3	withou spring		iliary	ca.24	325 150 325	6,0 19,0-21,0 5,7-6,3	450	0 0,4-0,6
(5)	820 900 1010	3,3-8,8 0,8-3,2 0,3-1,0	with a spring	auxili 9	ary		400 580	3,7-4,8 0 -1,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-to	pad stop	6 Rotational- speed limitat.	I(6) Hotational Root : Tollarion			fuel delivery	5a Idle stop		
Test oil tem rev/min 1	p. 40°C (104°F) cm³/1000 strokes 2	Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9	
750	39,5 - 41,5	765-775							
						<u> </u>	<u></u>		

Checking values in brackets

* 1 mm less control rod travel than col. 2

and Governors

WPP 001/4 MAN 9.2 1

1. Edition

PES 5 A 95 D 410 LS 2544 RQ 250/1100 AB1039DL (1)

LS 2544

250/1050 AB1042DL (2)

supersedes companyM A N

engine: D 2565 MUH

1 - 3 - 5 - 4 - 2 0 - 72 - 144 - 216 - 288 (-0,75)All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1.45-1.65)

mm (from BDC)

Cv1. 5

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	11.0	11,8 - 12,0	0,3(0,6)	10.5	10,9 - 11,1	- 1050/min
	+0,1			+0,1		
250	5,9-6,1	0,9-1,5	0,3(0,5)	5,9-6,1	0,8 - 1,4	
750/500		C, 4-5	0,4(0,7)	- " -		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1)

Checking PRG che	g of slider ck 1	Full-load : Setting po	•	_	cifications (4)	Idle spec	_		cifications 5	Torque o	control Control rod
rev/min	travel	rev/min 3	rod travel mm	rad travel mm 5	rev/min 6	rev/min 7	rod travel mm 8	rev/min 9	trave'	rev/min	travel mm 12
600	15,6-16,4	600	16,0	10,0	1145-1160	250	6,0	100	min.7,5		± 0,1
				4.0	1180-1210			250	5,9-6,1	1100	11,0
1100	10,3-11,2					1		355 - 500	395 = 2,0	790	11,6
1300	0 - 1									550	11,9

Torque-control travel on flyweight assembly dimension a =

Festoil-ISO 4113

0,3 _{mm}

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d governor of Test on ter	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting for	uel delivery d i Control
rev/min 1	cm³/-1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	red travel cm ³ /1000 strokes:/ mm 7
(1) 1100	116,5 - 118,5 (114,5 - 120,5)		750	111,5 - 114,5 (109,5 - 116,5)	100	149,0 - 159,0
			500	max. 111,5 (113,5)	250	6,0 mm RW
						./.

Checking values in brackets



Checking PRG che	g of slider	Full-load s			cifications (4)	idle spec	•		cifications (5)	Torque o	(3)
	Control rod travel mm	rev/min	Control rod travel mm	Control :od travel mm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm 10	rev/min	Control rod travel mm
600	15,6-16,4	600	16,0	9,5	1095-1110	İ	6,0	100 250	min. 7,5 5,9-6,1	1050	± 0,1 10,5
1050	10,4-10,6			4,0	1170-1200				400 = 2,0		11,1
1250	0 - 1							450	0 - 1	600	11,4

Torque-control travel on flyweight assembly dimension a

, 3,

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	relivery on control lever np 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting fi	Control
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min 6	rad travel cm ³ /1000 strokes / mm 7
(2) 1050	107, 5 - 109, 5 (105, 5 - 111, 5)		700	101,5 - 104,5 (99,5 - 106,5)	100	149,0 - 159,0
			500	max. 102,5 (104,5)	250	6,0 mm RW
				(104, 5)		

Checking values in brackets

B. Governor Settings

PRG che		\sim	ull-load s etting po		_	cifications (4)	Idle spec			cifications 5	Torque o	Control rod
	Control rod travel mm 2	re 3		rod travel mm		rev/min 6	rev/min 7	rod travel	rev/min 9	travel mm 10	rev/min 11	travel mm 12
					 							
						And And Andrews						

Torque-control travel on flyweight assembly dimension a

mm

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting for idle spee	d Control red travel
rev/min	cm ³ /-1000 strokes	rev/min	rev/min 4	cm³/-1000 strokes 5	rev/min 6	cm ³ /1000 strokes / mm

40

WPP 001/4 MAN 11,1 e

1. Edition

PES 6 A 95 D 410 LS 2420

RQ 250/1100 AB 839 D

supersedes

companyMAN

engine: D 2556 MXUM (220 PS)

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1.3 + 0.1

mm (from BDC)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7.4 - 8.0	0,4			
200	6	3,2 - 4,2				
	6	0,5 - 1,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking PRG che	g of slider ck 1	Full-load			cifications (4)	Idle spec Setting p	control		cifications 5	Torque c	Control rod
	travel mm	rev/min	rod travel mm	rod travel mm 5	rev/min 6	rev/min 7	red travel mm B	rev/min 9	travel mm 10	rev/min 11	travel mm 12
600	15,7-16,	3 600	16,0	1100 1150 1200 1250	9,0-14,0 0 - 7,2		0	100 200 300 440	6,9-8,1 5,6-7,6 3,3-5,5 0		15,8-16,0 15,3-15,5
								3345	11/0		

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F)		Control rod stop 3a	ery characteristics	Starting to	Control	
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	rod travel cm ³ /1000 strokes / mm 7
20° 1100	119,5 - 121,5		800 500	117,5 - 120,5 max. 120,5	100 250	
40° - 1100	116,5 - 118,5		800 500	115,0 - 118,0 max. 117,5		

Checking values in brackets

9.75

E6

①

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MAN 16,0 c 1

1. Edition

PE 10 A 95 D 520/5 LS2501

RQ 750 AB1015R

supersedes

company MAN

engine: D 2530 MTE

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

1,70-1,80

mm (from BDC)

Cyl. 10

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
730	12,7	13, 1 - 13, 3	0,3(0,6)			
	+0,1					
200	6,4-6,6	1,5 - 2,1	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed	1	Stiding s	leeve travel
1000.000.	rey/min Control	Control rod (a)	Degree of deflection		Control rod travel	Degree of deflection		Control rod travel		0
of central	rod travel		of control	rev/min	mm (4)	of control lever	rev/min	mm (3)	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
ca.30	11,7	747-753		-	-	_	-	-	750	5,7
	3,8	770-780						'		
	810	0 - 1							-	-
						3a				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roo Test oil ten			Fuel deliv	ery characteristics 5e	Starting Idle switchir	. 0	Torque- travel	control 5
rev/min	cm³/1000 strokes	rev/min 4	rev/min	cm³/1000 strokes		cm³/1000 strokes	rev/min	travel mm
1	2	3	4	5	€	/	8	9 .
730	129, 5-131, 5 (127, 5-133, 5)	745-755 dis		16,5 - 21,5 on .4 (6)				
Set	damping stop 1	rom 4.5 to 4	6 mm	CRT!				

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.78

E7

BOSCH

Geschäftsbereich KM: Kundendienst. Kfz-Ausrustung. C by Robert Bosch GmbH, D-7 Stuttgart 1, Postfach 50: Printed in the Federal Republic of Germany. Imprime en République Fédérale d'Allemegne par Robert Bosch GmbH.

Test Specifications ① Fuel Injection Pumps 1 and Governors

WPP 001/4 MAN 16,0 c

3. Edition

PE 10 A 95 D 520/5 LS2501

RQV 250-1250 AB967R (1)

supersedes 11.76 MAN company:

RQV 250-1150 AB967R (2)

D 2530 MTE

RQV 750

AB966R (3)

10 - 9 - 4 - 1 - 3 - 7 - 6 - 3 - 5 - 2 0 - 45 - 72 - 117 - 144 - 189 - 216 - 261 - 288 - 3330 All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection l

Cyl. 10

Port closing at prestroke

.65-1.85)

mm (from BDC)

FOI COUNTY OF PIOC		(1,00 1,00)				
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2 (+0,1)	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm³/100 strokes 3	mm 6
(1) 1250	10,5	10, 1 - 10,3	0,3(0,6)	725/12,6	- 12,6 - 12,9	(3)
(2) 1150 (1-2)250	12,0 5,9-6,1	13,0 - 13,2 1,5 - 2,1	0,3(0,6) 0,3(0,5)	200/6,5	- 1,5 - 2,1	(3)

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

250-1250 (1)

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed	1	Sliding s	leeve travel
		Control rod (a trave)	i aguaction		Control rod travel	Degree of deflection		Control rod travel		1
of control lever	rod travel	rev/min (28	of control lever	rev/min	mm 4	of control lever	rev/min B	mm 3	rev/min	mm 11
1	2	3	4	5	6	 				
ca.50	1275 1500		4 -	-	-	ca.13	100 250 310-	min.7,5 5,9-6,1 370 = 2,0	500	0,5-1,2 3,7-4,1 5,9-6,3
ca.43	1295 1355								1275	8,4
		_				3a			-	-

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil terr		Rotational-speed 2b limitation intermediate speed	Fuel deliv	rery characteristics 5a poed 5b	Starting Idle switchir		Torque- travel	Control 5 Control rod travel
rev/min cm³/1000 strokes		rev/min 48	rev/mir. cm³/1000 strokes		rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
1250	99, 5-101, 5 (98, 5-102, 5)	1290-1300 *			100	15,7-16,3		
	(90, 5-102, 3)				250	15,0-21,0		
					1	 ge-over point - 170 min ⁻¹		./.

Checking values in brackets

Upper rated s	peed		Intermediate	rated spe	ed	Lower rated	speed		Sliding sl	eeve travel
		Control rod (1a	Degree of deflection	Ì	Control rod travel	Degree of deflection		Control rod travel		0
	rodtravel	mm rev/min (2a	of control lever	rev/min	mm 4	of control lever	rev/min	mm ③	rev/min	mm
1,	2	3	4	5	6	7	8	9	10	11
ca.50	1180 1360 1195	14,4-18, 0 - 1 ca.11,0	0 -	-	~	ca.13		mind.7,5 5,9-6,1 370= 2,0	200 480 800 1180	0,5-1,2 3,2-4,0 5,0-5,4 8,4
	1255	ca. 4,0				(3a)			_	-

Torque control travel a =

mei

C. Settings for Fuel Injection Pump with Fitted Governor

	I stop ip 40°C (104°F) 2	Rotational-speed (2b) Iimitation Intermediate speed rev/min	Fuel deliv high idle s	ppeed 5b cm ² 1000 strokes	switchir	_	Torque- travel rev/min	Control rod travel mm
rev/min 1	2	3	4	5	6	7	8	9
1150	128, 5-130, 5 (126, 5-132, 5)	1190-1200 *	500	124, 0-127, 0 (122, 0-129, 0)	1	15,7-16,3		
	(120, 5-132, 5)			(122,0 127,0)	250	15,0-21,0		
<u>.</u>				٠ (e-over point 170 (80-190)		

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

750 (3)

Upper rated s	peed		Intermediate	rated spe	ed	Lower rated	speed		Sliding sl	eeve travel
deflection	rod travel	Control rod (1a) travel	Degree of deflection of control		Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	1
lever	mm 2	rev/min (2a)	lever 4	rev/min 5	mm (4) 6	7	8	9	10	11
ca.29	725 800	16,0-22,0							750	4,6
	750 775	ca.11,6 ca. 4,0						•	-	-
						(3a)				

Torque control travel a =

__

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro- Test oil ten		intermediate speed	Fuel deliv high idle s	very characteristics 5a speed 5b	Starting Idle switchir	fuel delivery 6	Torque- travei	Control rod
rev/min	cm³/1000 strokes	rev/min (4a)	rev/min	cm ⁹ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
725	125, 0-127, 0 (126, 0-129, 0)				-			
	(120)				200	15,0-21,0		

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 MAN 9,2 b

2. Edition

PES 5 A 95 D 410 LS 2381

RQ 250/1150 AB 839 D

supersedes 11.74

PES 5 A 95 D 410 LS 2396

RQV 250-1150 AB 847 D,850D company: MAN RQ 250/1150 AB 839 D

D 2555 M/MH

(168 PS)

1-3-5-4-2 je 72°

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Testoil-ISO 4113

Port closing at prest	troke 1	,6+0,1	mm (from BDC) <u>'</u>	reston to the					
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6				
1000	9	7.5 - 8.0	0,4							
	6	3, 2 - 4, 2								
200	6	0,5-1,4								
•										

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ .. 839 D

PRG chec	ck Control rod travel	Full-load s Setting po rev/min		Test spec Control rod travel	\sim	Idle spec Setting p rev/min	Control rod travel	Test spe	Control rod travel mm		Control rod travel mm
600	² 15,7-16,3	600	16,0		15,0-15,4 10,0-14,4 0 - 9	540	0	250	6,6-8,1 4,5-6,7 1,5-4,0	1020	15,8-16,0 15,4-15,6 15,3-15,4

Torgue-control travel on flyweight assembly dimension a

Speed regulation. At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	control lever (2)	Control rod stop (3a)	Fuel deliv	ery characteristics 3b	Starting for	d Control
rest on ter	np. 40°C (104°F) cm³/-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes	rev/min 6	cm ³ /1000 strokes:/ mm 7
20° 1150	2381 und 2396 112, 5 - 114, 5		800 500	114,5 - 117,5 max. 115,5	100 250	119 - 129 7 mm RW
40° 1150 (incr	109,5 - 111,5 ease by ± 1,0 cm ³	!)	800 500	112,0 - 115,0 max. 112,5		
						./.

Checking values in brackets

Upper rated s	peed			Intermediate	rated spe	ed		Lower rated	speed		Sliding sl	eeve travel
Degree of deflection		Control rod	(la)	Degree of deflection		Control rod travel		Degree of deflection		Control rod travel	١,	1
of control	rodtravel mm		(2a)	of control lever	rev/min	mm (4	of control lever	rev/min	mm ③	rev/min	mm
١,	2	3	_	14	5	6		7	8	9	10	11
ca. 50	1170	14,4-17	.4					ca. 13	50	7,7-11,0	200	0,5-1,3
30. 33	1220		-			ļ			150	6,6- 9,8	480	3,2-4,0
	1280	, ,	-						250	4,2-7,2	800	5,0-5,4
	1350		•]		İ			350	0 - 3,4	1180	8,4
									410	0	1100	0
								3a)				0,3-0,5

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem	STOD	Rotational-speed 2b limitation intermediate speed	Fuel deliv high idle s	very characteristics (5a) speed (5b)	Starting Idle switchir	\sim	Torque- travel	Control rod
rev/min	cm [*] 91000 strokes	rev/min 4a	rev/min	cm ² /1000 strokes	rev/min	cm≇1000 strokes	rev/min 8	travel mm
20° 1150	2381 und 2396 112, 5-114, 5	1190-1205 *	800 500	114,5-117,5 max. 115,5	i	119 - 129 7 mm RW		
40° 1150 (incre	109,5-111,5 ase by ± 1,0	1	800 500	112,0-115,0 max. 112,5	Chan 180-	ge-over point 200 min-1		

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

Upper rated s	peed			Intermediate	rated spe	ed	Lower rated	speed		Stiding st	eeve travel
Degree of deflection	Control	Control rod travel	(ta)	Degree of deflection		Control rod travel	Degree of deflection]	Control rod travel		0
of control lever	rod travel mm	rev/min	(2a)	of control lever	rev/min	mm 4	of control lever	rev/min	mm ③	rev/min	mm
١,	2	3	$\overline{}$	4	5	6	7	8	9	10	11
				:							·
							3a)				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fifted Governor

Full-load de Control-roo Test oil ten	p 40°C (104°F) (2)	intermediate speed (4a)		ery characteristics 5a peed 5b cm ⁹ /1000 strokes	switchir	fuel delivery 6 ng point cm //1000 strokes	Torque- travel	Control 5 Control rod travel
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm-/1000 strokes	i	Citi 71000 strokes		
1	2	3	4	5	6	<u> </u>	8	9

Checking values in brackets

• 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MAN 8,3 t

1. Edition

En.

PE 6 A 70 C 412 RS 1058

EP/RSV 325-750 A7 B537DL

supersedes

company: engine: MAN D 1246 M

<u>Note:</u> Perform basic adjustment before setting start of delivery.

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings

Port closing at prestroke

2,25-2,35

mm (from BDC)

RW 12

Port closing at pres			نيسنيم		· · · · · · · · · · · · · · · · · · ·	
Rotational speed	Control rod traval	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1000	9	4,5 - 4,8	0,3			
	6	2,0 - 2,6				
200	6	1,1 - 1,7				
	İ					

Adjust the fuel delivery from each outlet according to the values in

Testoil-ISO 4113

B. Governor Settings

Upper rated s	peed		Intermediate	rated spe	1	Lower rated	speed	10	Sliding sleeve travel	
deflection	rev/min Control rod travel mm 2	Control rod travel mm rev/min (28	of control	rev/min 5	control rod travel mm 4	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3	rev/min	(1) mm 11
ca. 44	750 770 790	16,0 11,8 7,2	without spring	auxi	liary	ca.19	325 100 325	6,0 19,0-21,0 5,7- 6,3		0 0,4-0,6
	780 850 920	8,2-10,2 1,6- 3,4 0,3- 1,0	with au spring	xilia	гу	<u>3a</u>	400 550	3,3- 4,6 0 - 1,0	}	

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de		limitation	Fuel deliv	ery characteristics 5a	Idie	_	Torque-control 5	
Test oil tem	1p. 40°C (104°F) (2)	rev/min	rev/min	Ų.	switchir rev/min 6	cm ³ /1000 strokes	rev/min	Control rod travel mm
750	67,0 - 69,0	760				min.20mm RW	325	6,0
- Re-	check on engi	ne! -						

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 KHD 5.1 e

1. Edition

PES 5 A 80 D 410 RS 2526

RS 325/1400 A0B 2212 L

supersedes' Deutz Argentinien F 5 L 913

Komb.-Nr. 9 400 085 255

1-3-5-4-2 je 72° ± 0,5 ° (± 0,75 °)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 1,9-2,0 Port closing at prestroke (1,85-2,05) mm

Port closing at prestroke

Testoil-ISO 4113

mm (from BDC)

Rotational speed	Control rod Fuel delivery travel		Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm³/100 strokes	cm ³ / 100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1400	11,5+0,1	6,6-6,7	0,25 (0,4)			
325	8,4-8,6	1,0-1,3	0,2 (0,35)			
					·	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1) Uppe	r rated speed	rev/min	Intermed	diate rated	speed	Lower rated speed			3 Torque control		
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min				Control- lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm	
1	2	3	4	5	6	7	8	9	10	11	
loose	800	0,3-1,0	-	-	-	FH ca.28	325	8,5	1400	11,5-11,6	
		= 2,0			,		280 420	8,8-9,6 5,6-6,4	500 1100	12,2-12,3 11,8-12,1	
VHca.55 FH max.	10,5 4,0	1440-1450 1500-1530 0,3-1,7					550 1300	max. 4,4 max. 3,8		11,0-12,1	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp 40°C (104°F)			et delivery aracteristics	Starting fidle	uel delivery 5	da Idle stop Control rod travel		
rev/min	cm³/1000 strokes 2	rev/min	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm4/1000 strokes 7		mm 9	
1400	65,0-66,5 (64,0-68,0)	1440-1450*	500 1100	55,5-57,5 (53,5-59,5) 62,0-64,0 (60,0-66,0)	100	19,0-21,0 mm RW	-	-	

Checking values in brackets

* 1 mm less control rod travel than col 2



Test Specifications Fuel Injection Jumps (A) and Governors

40

WPP 001/4 HAN 10,8 g

1. Edition

En

PE 6 A 95 D 320 RS2557 Z

EP/RSV 350-1100 A8 B1117DR A8 B1118DR supersed∈s
(1)
company
engine

MF-Hanomag D 963 TC

D 962

(1) (2)

Test cold-start device according to VDT-I-DAF 004

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 - 2,25 (2,10 - 2,30)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes	cm³/ 100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
1100	11,3-11,4	10,6-10,9	0,3(0,6)	10,0-10,1	9,0 - 9,3	
350	6,4-6,5	0,9-1,5	0,3(0,5)	6,4-6,5	0,9 - 1,5	
700/500		C, 4-5	0,4(0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1117 DR (1)

13 5 2 .	r rated speed Control rod travel mm	trev/min Control rod travel mm rev/min 3	Interme	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	1131	rque control Control rod travel mm
loose	800	0,3-1,0		. 	-	ca.25	350	5,5	1100	11,3-11,4
	×	= 5,50					100	min.19	960	11,4-11,6
ca.56	1140-1 1175-1 1370	150 = 10,3 205 = 4,0 0,3- 1,7					350 490-550 650	5,9-6,1 = 2,0 0 - 1	500	11,6-11,7

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	ill-load stop	6 Rotational- speed limital Speed lenitation Speed limitation			Starting fuel delivery 5 4a Idle stop			
Test oil to rev/min 1	emp 40°C (104°F) cm 3 /1000 strokes 2	Note changed to) rev/min 3	rev/min	cm#1000 strokes	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9
1100	105,0-107,0 (103,0-109,0)	1140-1150*	700	108,0-111,0 (106,0-113,0)	100	**19 - 21		
			500	100,0-102,0 (98,0-104,0)				./.

Checking values in brackets

* 1 mm less control rod travel than coi 2



118DR (2)

	Upper rated speed rev/min				speed	I Control rod			Torque control		
Degree of deflection of control	travel	travel mm rev/min				Control- lever deflection	rev/min	travel mm	rev/min	travel mm	
lever	2	3	4	5	6	in degrees 7	8	9	10	11	
loose	800	0,3-1,0	1			ca.25	350	5,5	1100	10,1-10,2	
	×	= 5,50					100	min.19	975	10,2-10,4	
ca.56	1170-1	150 = 9,0 200 = 4,0 0,3- 1,7			•		350 490-550 650	5,9-6,1 = 2,0 0 - 1	500	10,6-10,7	

C. Settings for Fuel Injection Pump with Fitted Governor

(B)	Il-load stop emp. 40°C (104°F)	Rotational- speed limitat.	11.3211	el delivery aracteristics 	Starting f	uel delivery 5	(4a) Idie stop Control roo	
rev/min	cm ³ /1000 strokes	changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	mm 9
1100	89,0-91,0 (87,0-93,0)	1140-1150*	700	93,0-96,0 (91,0-98,0)	100	19 - 21		
•			500	83,5-86,5 (81,5-88,5)				

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

Degree of deflection of control lever	rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Interme	diate rated	speed	Control- lever deflection in degrees 7	Lowe rev/min 8	r rated speed Control rod travel mm	rque control Control rod travel mm
20									

C. Settings for Fuel Injection Pump with Fitted Governor

st oil temp. 40°C (104°F) Note:			el delivery paracteristics	Starting fuel delivery 5			e stop Control rod
cm ³ /1000 strokes	changed to) rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min 6	cm³/1000 strokes 7		travei mm 9
		<u> </u>					

Checking values in brackets En

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 HAN 10,8 a 3. Edition

	En
PE 6 A 95 D 320 RS2364 EP/RSV 350-1100 A4 B1041DR (1) RS2364 350-1100 A4 B1069DR (2) RS2364 350-1100 A4 B1070 R (3) RS2364 350-1100 A4BV12413 (4) PE 4 A 95 D 420 RS2365,Z,Y 350-1100 A4 B1041DR (5)	supersedes 12.74 company MF-Hanomag policy D962 (1) D963 (2) D963A1 (3)
RS2365 350-1100 A4 B1041DR (6) All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers A. Fuel Injection Pump Settings	

Port closing at prestroke

Testoil-ISO 4113

2,15+0,1

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,5 - 8,0	0,4			
	6	3,2 - 4,2				
200	6	0,5 - 1,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1041DR (1)

11. • /	r rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	(3) To rev/min 10	rque control Control rod travel mm 11
ca.70	1100 1140 1180	16,0 11,8 6,2 ca.9,6	with spri	out au	ıxilia	ca.30 ry	350 100 350 450	7,0 19 - 21 6,7-7,3 3,8-5,3	1100 600	0,5-0,7
ca.68	1200 1250	ca.3,3 0,3-1,5	with spri	auxil ng	liary		630	0 -1,5		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

U	II-load stop	6 Rotational- speed limitat	11361	iel delivery paracteristics	Starting f	uel delivery 5	4a) idle stop		
rev/min	cm ³ /1000 strokes	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min 8	Control rod travel mm 9	
(1) 1100	89,0-91,0	1110-1125	700 500	92,5-96,5 91,5-97,5 83,5-86,5 82,5-87,5				./.	

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Intermed	liate rated	spæd	Control- lever deflection in degrees 7		rated speed Control rod travel mm	rev/min	que control Control rod travel mm
ca.70	1100 1140 1170	16,0 12,2 8,2	*			ca.29	350 100	7,9 19 - 21	1100	0
29	1150 1230 1320	9,3-11,8 2,3- 5,0 0,3-1	**				350 500 600	7,6-8,2 2,4-5,2 0 - 1	500	0,6-0,8

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load stop Test oil temp. 40°C (104°F)		Rotational- speed limitat.		el delivery aracteristics	idle 100			e stop Control rod I travel
rev/min	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	mm 9
(2)	103,5-105,5	1110-1125	700 500	109,5-112,5 103,0-106,0				
DU963 1100	86,0-88,0	1130-1140*	700 500	94,5- 97,5 84,0- 87,0				

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

1070 R (3)

	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Interme	ediate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9		rque control Control rod travel mc.
ca.70	1110 1140	16,0 12,2	*	without	t auvi	ca.30	350	7,9	1100	0
	1170 1140	7,4 10,5-13,0		spring	L GUA	1019	100 350	19 - 21 7,6-8,2	250	0 2 0 0
②	1200 1320	4,5- 6,7 0,3- 1,0	**	with au spring	uxilia	ry	500 650	2,5-5,0 0 - 1	350	0,2-0,8

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load stop Test oil temp. 40°C (104°F)		speed limitat.		el delivery aracteristics	Starting f	uel delivery 5	da idle stop Control ro		
rev/min 1	cm³/1000 strokes 2	rev/min	rev/min 4	cm ³ /1 000 st rokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	mm 9	
(3) 1100	118,5-120,5	1110-1125	750 500	116,5-120,5 114,5-118,5					
								./.	

Checking values in brackets En

* 1 mm less control rod travel than col. 2

Degree of deflection of control lever	r rated speed Control rod travel mm		Intermed	diate rated		Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	11 9 /	rque control Control rod travel mm 11
ca.70	1100 1140 1170	16,0 12,2 7,4	with spri	out au ng	xilia	ca.30 ry	350 100	7,9 19 - 21	1100	0
29	1140 1200 1320	10,5-13,0 4,5- 6,7 0,3- 1,0	enri	auxil ng	iary		350 500 650	7,6-8,2 2,5-5,0 0 - 1	350	0,2-0,8

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	II-load stop	6 Rotational- speed limitat.		ret delivery paracteristics	Starting f	Starting fuel delivery (5) (4a) Idle		
rev/min cm³/1000 strokes		Note: changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	Control root travel mm
(4) 1100	LDA 0,6 bar 109,5-111,5 108,5-112,5	1130-1140*	LDA 700	0,6 bar 117,5-121,5 116,5-122,5				

Checking values in brackets

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

Testoil-ISO 4113

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
2364 + V12413	0,40		0,2 - 0,3
		0,20	1,1 - 1,3

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

./.

En

^{* 1} mm less control rod travel than col. 2

Degree of deflection of control lever	deflection travel (ravel) of control mm mm rev/min		Intermediate rated speed 4 5 6		Control- lever deflection in degrees 7	rev/min	1(0)		min	
ca.70	1100 1140 1180	16,0 11,8 6,2	*		•	ca.30	350 100 350	7,0 19 - 21 6,7-7,3	1100	0
29	1125 1200 1250	ca.9,6 ca.3,3 0,3-1,5	**				450 630	3,8-5,3 0 -1,5	600	0,5-0,7

C. Settings for Fuel Injection Pump with Fitted Governor

1	ill-load stop	6 Rotational- speed limitat.		el delivery aracteristics	Starting t				
1	emp. 40°C (104°F) cm ³ /1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9	
1100	93,0 - 95,0	1140-1155*	700 500	99,5-103,5 91,5- 94,5					
1100	87,5 - 89,5	1140-1155*	700	91,5- 94,5					
1100	84,0 - 86,0	1140-1155*	500 700 500	82,5- 85,5 88,5- 91,5					

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

1041DR (6) DU 943

Degree of deflection of control lever	r rated speed Control rod travel mm		Interr	mediate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	I (~)	rque control Control rod travel mm
ca.70	1100 1140 1180	16,0 11,8 6,2	*	without spring	auxi	ca.30 iary	350 100	7,0 19 - 21	1100	0
20	1125 1200 1250	ca.9,6 ca.3,3 0,3-1,5	**	with au spring	xilia	у	350 450 630	6,7-7,3 3,8-5,3 0 -1,5		

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	Rotational- speed limitat.	Rotational- speed limitat. Speed limitat.			uel delivery 5	da Idle stop	
rev/min 1	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
(6) 1100	76,0 - 78,0	1130-1140*	700 500	75,5-80,5				

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (1A) and Governors

40

WPP 001/4 HAN 10,8 b
3. Edition

<u>En</u>

PE 6 A 95 D 320 RS 2364 EP(RSV 350-1100 A4 B1104DR (1) supersedes A 95 D 420 RS 2364 EP/RSV 350-1100 A4 B1103DR (2) Company PE 4 A 95 D 420 RS 2365 EP/RSV 350-1100 A4 B1104DR (3) engine 4.78

66C-700C (2) 44C (3)

Test cold-start device according to VDT-I-420/114 All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,15-2,25

Port closing at prestroke

estoil-ISO 4113

(2,10-2,30)

mm (from BDC)

Aotational speed	Control rod	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ^{\$} /100 strokes 3	mm 6
1000	9	7,5 - 8,0	0,4]
	6	3,2 - 4,2				
200	6	0,5 - 1,4				
1						

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

2364 + 1104D(1)

	rated speed Control red travel mm	rev/min Control rod travel mm rev/min	Interme	diate rated	speed	Control- lever deflection in degrees 7	Lower	rated speed Control rod travel mm	I(3)	rque control Control rod travel mm
ca.70	1100 1140 1180	16,0 11,8 6,2		without auxilia spring			350 100	7,0 19 - 21	1100	0
ca .69	1155 1180 1350	ca.9,0 ca.4,0 0,3-1,7	with auxiliary spring				350 610	6,9-7,1 570=2,0 0 -1,5	600	0,5-0,7

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load stop Test Oil temp 40°C (104°F)		Rotational speed limitat		uel delivery naracteristics	Starting I	uel delivery 5	4a) Idi	e stop Control rod travel
rev/min 1	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1 000 strokes 5	rev/min 6	cm4/1000 strokes 7	rev/min 8	mm 9
(1) 1100	89,0-91,0 (87,0-93,0)	1140-1150*	700 500	93,0 - 96,0 (91,0 - 98,0) 83,5 - 86,5				
			500	(81,5 - 88,5)				

Checking values in brackets

* 1 mm less control rod travel than col 2

12.78

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH.

Degree of deflection of control lever	deflection of control mm max rev/min		Intermediate rated speed		Control- lever deflection in degrees 7		rated speed Control rod travel mm 9	Control rod travel mm rev/min		
ca.66	1100 1140 1170	16,0 12,2 8,2	*			ca.29	350 100 350	6,0 19 - 21 6,4-6,6	1100	0
2	1145 1185 1350	ca. 12,0 ca. 4,0 0,3-1,7	**				505- 650	565=2,0 0 - 1,5	500	0,4-0,6

C. Settings for Fuel Injection Pump with Fitted Governor

ري	li-load stop emp. 40°C (104°F)	speed limitat. Note: changed to)		el delivery aracteristics	Starting f	uel delivery 5	Idle stop Control rod	
rev/min 1	cm ³ /1000 strokes 2	rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	mm 9
(2) 1100	103,5-105,5 (101,5-107,5)	1140-1150*	700	99,5-103,5 (97,5-105,5)		**		
			500	103,5-105,5 (101,5-107,5)				
	·							<u> </u>

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

2365 +	. 11	104DI	R(3)
--------	------	-------	------

	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Interm	nediate rated	speed	Control- lever deflection in degrees 7	Lower rev/min B	rated speed Control rod travel mm	11 0 1	rque control Control rod travel mm
ca.70	1100 1140 1180	16,0 11,8 6,2	2	without spring	auxil	ca.30 iary	350 100 350	7,0 19 - 21 6,9-7,1	1100 600	0
ca.69	1145 1180 1350	ca. 9,0 ca. 4,0 0,3-1,7		with aux spring	xilian	Y	510- 650	570=2,0 0 - 1,5		

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load stop Test oil temp. 40°C (104°F)		Rotational- speed limitat		el delivery eracteristics	Starting f Idle	uel delivery 5	(4a) Idle stop Control retrayel	
rev/min	cm³/1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	mm 9
(3) 1100	93,0-95,0 (91,0-97,0)	1140-1150*	700 500	100,0-103,0 (98,0-105,0) 92,0- 94,0 (90,0- 96,0)		**		

Checking values in brackets En * 1 mm less control rod travel than col. 2

estoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 VOB 6,0 d 2. Edition

En

PES 6 A 90 D 320 RS 2480 PES 6 A 90 D 320 RS 2481

RQV 250-1150 AB 594 R (1) RQV 250-1150 AB 594 R (2) supersedes 12.75
company: Volvo-BM
engine D 60 A (1)
TD 60 A (2)

Testing with "B" leads

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2.0 + 0.1

mm (from BDC)

**

Rotational speed rev/min	peed Control rod Fuel delivery mm cm³/100 strokes 2 3		cm ³ /		Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,1 - 5,5	0,4			2,5 + 0,1** (max.2,2-2,9)
	6	1,6 - 2,6	,			(IIIax . 2 , 2 - 2 , 3)
	9 closing 5°camsha	3,5 - 4,5 difference betw ft.	een contr	pl-rod tr	avel 9 mm and	21 =

In the case of greater dispersion alter the delivery-valve spring pre-tension accordingly.

B. Governor Settings

Upper rated s	peed			Intermediate	rated spe	ed		Lower rated	speed	1	Sliding s	leeve travel
deflection		Control rod travel	19	Degree of deflection of control		Control rod travel		Degree of deflection of control		Control rod travel		1
of control	rod travel	rev/min	(2a)	lever	rev/min	mm (4)	lever	rev/min	mm (3)	rev/min	mm
1	2	3	<u> </u>	4	5	6		7	8	9	10	11
ca.68	1150 1200 1250 1330 1440	15,0-18, 11,3-15, 7,2-12, 0 - 7, 0	2	-	-	-		ca.14	200 300 400 500 650 800	6,6-8,0 4,0-6,3 2,9-3,8 2,3-3,6 1,0-2,2		

Torque controi travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten						fuel delivery 6 ng point cm³/1000 strokes	Torque- travel rev/min 8	Control 5 Control rod travel mm
(1) 800	51,0 - 53,0	1190-1200*			100 235 isper: 1250	min.18mmRW 9,25-11,25) sion max.2,0 11,25-16,25 sion max.3,0	**	./.

Checking values in brackets

* 1 mm less control rod travel than col. 2 9 . 76

Upper rated :	speed			Intermediate rated speed			Lower rated	speed	Sliding sl	eeve travel	
Degree of deflection of control lever	Control rodtravet mm	Control rod travel mm rev/min	\sim	Degree of deflection of control lever	rev/min	control rad travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min 10	mm 11
ca.68		0 - 1	5,2	-	-	-	ca.14	200 300 400 500 650 800	6,6-8,0 4,0-6,3 2,9-3,8 2,3-3,6 1,0-2,2		

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem	eton _	Rotational-speed (2b) timitation intermediate speed	Fuel deliv high idle s	rery characteristics 5a speed 56	Starting (Idle switchin	_	Torque- travel	Control rod
rev/min	_	rev/min 43	rev/min	cm ³)1000 strokes 5	rev/min	cm3/1000 strokes 7	rev/min 8	travel mm
(2) 900	70,0-72,0	1190-1200*			235 disper 1250	sion max.2,0	i	

Checking values in brackets

• 1 mm less control rod travel than col 2

B. Governor Settings

Upper rated	speed			Intermediate				speed	Sliding	sleeve travel	
Degree of deflection of control lever		Control rod travel mm rev/min	(a) (2a)	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm	3) rev/mi	n mm
1	2	3		4	9		(3a)				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil temp	stop p 40°C (104°F) 2	intermediate specu	Fuel deliv high idle s	ery characteristics 5a peed 5b	SWITCHIN	ng point	Torque-	Control rod
rev/min	cm³/1000 strokes	rev/min 3	rev/min 4	cm ⁹ /1000 strokes 5	rev/min 6	cm //1000 strokes 7	rev/min 8	mm 9
							}	
						i		

Checking values in brackets

* 1 mm less control rod travel than col 2

2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

4

WPP 001/4 DAF 6,2 f 2. Edition

in

PE 6 A 85 D 320 RS 2466

RQ 250/1200 AB 662 R (1) 250/1300 (2) supersedes 6.75 company: D A F DD 575 (

Testing with "B" leads

engine: DD 575 (1) DF 615 (2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

**

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 + 0,1

mm (from BDC

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,2 - 4,5	0,4			
	6	1,3 - 2,0				
	12	7,4 - 8,2				
200	9	2,4 - 3,1				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

250/1200 (1)

Checkin	g of slider	Full-load s	peed req	gulation		Idle spec	ed regula	ition		Torque c	_
PRG che		Setting po	Control rod travel	Test spec Control rod travel	ofications (4)	Setting p	oint Control I rod travel		cifications (5) Control rod		Control rod (3)
rev/min		rev/min 3	mm 4	mm 5	rev/min 6	rev/min 7		rev/min 9	mm 10	rev/min 11	mm 12
650 1200	19,7-20,3 Breakaway	650 (Cont lever ca.49	rol		19,6-20,0 15,0-18,8 9,5-15,2 0 - 9 0 - 1	470	0	100 200 300 370	9,0-11,7 6,1- 9,2 1,2- 4,7 0	_	-

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on ontrol lever np. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics	3ы	Starting for	Contral
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5		rev/min 6	red travel cm ³ /1000 strokes / mm 7
1000	48,5 - 50,5						
** Pc	rt closing diffe 3-4° camshaft.	erence between c	ontrol.	rod travel S	9 mm	and 2	-/.

Checking values in brackets

8.76

BOSCH

1 .	ck Control rod travel	1		-	rev/min	Idle spec Setting p rev/min 7	Control rod travel		cifications Control rod travel mm 10	rev/min	Control rod travel	3)
	19,7-20,3 Breakaway	550 (Cont lever ca.49	rol		19,6-20,0 13,6-18,2 6,6-14,0 0 -10,2 0 - 1	480	0	100 200 309 380	9,6-11,5 7,2-10,1 2,5-5,7 0			
	<u> </u>	11		L	<u> </u>	<u> </u>	<u> 1</u>	1345	-1360	1	1 mm less cont	

Torque-control travel on flyweight assembly dimension a =

Speed regulation At

rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d governor o Test cil ten	elivery on control lever np 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting for Idle spee	uel delivery d J Control
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min	rod travel cm ³ /1000 strokes framm? W 7
1000	54,5 - 56,5					

Checking values in brackets

B. Governor Settings

Checking PRG che	g of slider ck (1	Full-load s	•	-	cifications	(4)	Idle spee	oint		cifications 5	Torque o	control Control rod	3)
rev/mເຄ 1	Control rod travel mm	•	ev/min 3	Control rod travel mm	Control rod travel mm 5	rev/min		rev/min	Control rod travel mm 8	rev/min 9	Control rod travel mm	rev/min 11	travel	
<u> </u>														
											[<u> </u>	1	

Torque-control travel on flyweight assembly dimension a =

Speed regulation At

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor de Test oil ten	elivery on ontrol lever pp 40°C (104 °F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting for	Contra: *
nev/min	cm ³ /-1000 strokes	rev/min 3	rev/min	cm³/-1000 strokes	rev/min	fod travel cm ³ /1000 strokes / mm */ 7
				•		
						•

En Checking values in brackets

3

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 STE 8,1 b
4. Edition

En

PE 6 A 90 C 412 RS 2250 ...D..

RQ 250/1400 AB 672 D RQV250-1400 AB 739 D RQV250- 825/1400 AB 827 D EP/RSV 250-1100 A 7 B 560 RQV 250-1400 AB 891 D supersedes 11.75

company: Steyr WD 614.01

(180 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2.15 + 0.1

mm (from BDC)

Rotational speed	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,6 - 5,1	0,4			
200	6 12 9	1,5 - 2,3 8,5 - 9,5 2,3 - 3,1				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ .. AB 672 DL (1)

PRG chec	Control rod	1	Full-load s Setting po rev/min 3		Test spec Control red travel		rev/min	Control rod travel	Test spe	cifications (5) Control rod travel mm 10	Torque c rev/min 11	Control rod (3)
550	15,7-16	5,3	550	16,0	1400 1440 1470 1530	14,2-14,6 5,0-12,5 0 - 8,5 0		0	100 200 300 430	7,8-8,1 6,2-8,1 3,3-5,7 0	1	15,8-15,9 14,6-14,8

Torque-control travel on flyweight assembly dimension a =

0,4 mm

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test oil ten	elivery on ontrol lever np. 40°C (104°F)	2	Control rod stop 3a	Fuel delive	ry characteristics 3b	Starting full	d Control red travel
rev/min 1	cm ³ /-1000 strokes		rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /1000 strokes / mm
1400	75,5-77.5		500	900	80,0 - 83,0	100	ca. 15 mm RW
1400	* 81,0-83,0		500	600	74,5 - 77,5		
1400	75,5-77,5 +		* Test with and overf "with" -	TOW VA	nes" lve tention to with	runnin	g-in cap!
							./.

Checking values in brackets

estoil-ISO 411

B. Governor Settings Lower rated speed Upper rated speed Intermediate rated speed Sliding sleeve travel Control rod Degree of Control rod rev/min Control |Control rod Degree of Degree of (1) deflection travel deflection of control deflection travel of control of control rodtravel mm rev/min rev/min mm lever rev/min lever rev/min 8,5 ca.10 250 7,2-8,0 1400 ca.66 1400 13,0-15,6 350 3,3-5,7 350 1,8 7,8-12,2 1460 Pay attention to special setting and 3 washers 2,6-4,0 500 0 - 7,21540 1,0-2,2 1000 0 700 beneath idle spring! 1650 600 0,6-0,8 880 **(3a)**

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil terr	stop	Rotational-speed (2b) Ilmitation Intermediate speed	Fuel deliv high idlé s	rery characteristics 5a speed 5b	Starting to Idle switching	\mathbf{C}	Torque- travel	Control roc
rev/min	cm ² / ₁₀₀₀ strokes	rev/min 4a	rev/min	cm ² /1000 strokes	rev/min	cm2/1000 strokes	rev/min	travel mm 9
1400	77,5 - 79,5	1420	1200 900 500	79,5 - 82,5	5	15,6-16,2		

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

RQV 250-825/1400 AB 827D (3)

Upper rated s	peed			Intermediate	rated spe	ed		Lower rated	speed		ls	Sliding st	eeve travel
Degree of deflection	rev/min	Control rod travel	(1a)	Degree of deflection	ı	Control rod travel		Degree of deflection	1	Control rod travel			1
of control lever	rod travel mm	mm rev/min	(2a)	of control lever	rev/min	mm	4	of control lever	rev/min	mm (3) r	ev/min	mm
١,	2	3	•	4	5	6		7	8	9		10	11
ca.66	1400 1460 1540 1660	9,0- 1,5-	13,5		700 900 1000 1380	-	3,8 4,8 1,0	İ	100 250 500 620	6,5-8,0 3,4-5,7 1,0-2,0 0	7	400 900	1,0-2,2 2,4-2,9 6,6-7,1 7,4-7,6 8,3 1660End
								За		<u> </u>			
Torque contro	oi travel a	1,0	mm	800	0	4							

500 = 0.9 - 1.1C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil terr		intermediate speed	Fuel deliv high iਹੀe s	peed 5b	Starting Idle switchir	fuel delivery 6 ng point	Torque-	Control rod
rev/min	cm ³ /1000 strokes 2	rev/min 3	rev/min 4	cm ⁹ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
1400	77,5 - 79,5	1425	1200 800 500	73,0-76,0 79,5-82,5 73,0-76,0	100	15,6-16,2		
			300	73,0-70,0		ge-over point -130 U/min		

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

B. Governor Settings

VDT-WPP 001/4 STE 8,1b EP/RSV 250-1100 A 7 B 560 (4)

Upper rated s	speed			Intermediate	rated spe	ed	Lower rated	speed		Slidina sl	eeve travel
Degree of deflection of control lever	Control rodtravel	Control rod travel mm rev/min	0	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	١	mm
],	2	3		4	5	6	7	8	9	10	11
ca.73	1100	16,0 11,2		without	t auxi	liary	ca.25	250	6,0	1080	0
	1160 1140	4,5	,5	spring		1	-	100 250	19 - 21 5,7-6,3	300	1,2-1,8
	1180 1260		,6	with an spring	1	ry		350 440	0,6-3,2 0 - 1		
	l						(3a)	<u> </u>			

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem		Rotational-speed (2b) limitation intermediate speed	Fuel deliv high idlé s	rery characteristics 5a peeed 5b	Starting Idle switchin	\mathcal{O}	Torque- travel	Control rou
rev/min	cm ⁴ 1000 strokes	rev/min (4a)	rev/min	cm ³ /1000 strokes	rev/min	cm3/1000 strokes	rev/min	travel mm
,	2	3	4	5	6	7	8	9
ca. 10	mm RW - Cari	y out adjustm	ent o	engine				

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

RQV ..891 D (5)

Upper rated s	speed			Intermediate	rated spe	ed		Lower rated	speed		Sliding sleeve trave	
Degree of deflection of control lever	rod travel	Control rod travel mm rev/min	ta 2a	Degree of deflection of control lever	rev/min	Control rod travel mm (4	Degree of deflection of control lever	rev/min	Control travel mm	rev/min	1 mm
ca.50	1400 1500 1600 1730	15,0-18 8,3-13 1,0-8	3,3	-	_	-	******	ca.13	100 200	8,7- 6,6- 2,8- 0	1400 1400 600	8,2 0 0,6-0,8
								(3a)				

0,7 _{mm}

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem		intermediate speed	Fuel deliv	rery characteristics 5a	Starting Idle switchir		Torque- travel	Control roo
rev/min	cm³/1000 strokes	rev/min (4a)	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
1400	79,5 - 81,5	1440-1455*	900 500	80,0-83,0 73,0-76,0	100	114,9-124,9		
						ge-over poin 130 U/min		
7								,

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 DAF 8,3 b 1 3. Edition

PE 6 A 95 D 410 RS 2388 (1)

RQ 225/1200 AB 766L

EP/RSV 250-1200 A5 B 584 DL

superseces 8.76

DAF

RS23<u>88</u>Z (2)

company:

DU 825 (1)

engine:

DHB825 (2)

Testing with "B" leads

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,0-2,1 (RW 9)

mm (from BDC)

Control rod	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6
12	7,4 - 7,8	0,4			1
9	3,1 - 3,8				
9 closing	1,2 - 2,0 difference betw	een contro	ol-rod tr	avel 9 mm and 2	1 =
	travel mm 2 12 9	travel mm 2 12 7,4 - 7,8 9 3,1 - 3,8 9 1,2 - 2,0	travel cm ³ /100 strokes cm ³ / 100 strokes cm ³ / 100 strokes 4 12 7,4 - 7,8 0,4 9 3,1 - 3,8 9 1,2 - 2,0	travel control rod travel cm ³ /100 strokes 2	Travel

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ .. AB 766

PRG che	ck Control rod travel			Test spec Control rod travel	_	idle spec Setting p rev/min 7	Control rod travel		cifications 5 Control rod travel	rev/min	Control rod travel mm
650 1200	19,7-20,3 Breakaway	650 (Cont lever ca.49	ł		19,7-20,0 12,0-17,5 6,5-14,0 0 -10,5		0	250	9,8-11,7 7,3- 9,9 4,2- 7,0 0	-	-

Torque-control travel on flyweight assembly dimension a =

1245-1260 = Speed regulation: At

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

1	Full-load delivery on governor control lever Test oil temp. 40°C (104°F)		Control rod stop 3	Fuel delive	ery characteristics (3b)	Starting f	Contras rad travel	
	rev/min	cଲ³/-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /1000 strokes; 7	
(1)	LDA 1000	0,5 bar 99,0-101,0 0,7 bar		LDA 600	0 bar 77,0-80,0	100 225	min. 20 mm ca. 9 mm	
(2)	1000	90,5-92,5		600	77,0-80,0			
	(incr	ease by ± 1,0 cm	!)					./.

Checking values in brackets

4.77

Geschaftsbereich KH. Kundendienst. Kfz-Ausrüstung. € 1980 by Robert Bosch Gmb∺, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany. Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH.

EP/RSV .. 584 DL

$\mathbf{R} \cdot \mathbf{J}$	r rated speed Control rod travel mm	rev/min Control rod trave! mm rev/min 3	Interme	diate rate	1	Contro! lever deflection in degrees 7	Lowe rov/min 8	Control rod travel mm	3 To	rque control Control rod travel mm 11
ca.56	1260 1339	16,0 11,7 5,6 8,7-10,8 2,3- 5,5 0,3- 1,0	spri	ng auxil	uxilia liary	ca.22 'y	250 150 250 350 470	6,0 19 - 21 5,7-6,3 2,1-3,8 0 - 1	500 300	0,1-0,3 0,8-1,0

C. Settings for Fuel Injection Pump with Fitted Governor

4			II-load stop	6 Rotational- speed limitat.		el delivery aracteristics	Starting t	Starting fuel delivery 5 4a Idla stollale		
Testoil		Test oil te rev/min 1	amp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min [*]	cm ³ /1000 strokes 5	rev/min	Control rod travel	rev/min 8	Control root travel mm 9
_	(1)	LDA 1000		1240-1250*	LDA 600	0 bar 77,0-80,0	100	min. 20		
SO	(2)	1000	0,7 bar 90,5- 92,5		600	77,0-80,0	250	ca. 6		
4113		Checking	values in brackets					* 1 mm less con	trol rod tra	vel than co

D. Adjustment Test for Manifold Pressure Compensator

fev/min decreasing pressure - in bar gauge pressure Test at n =

Pump/governor	Setting	Measurement	diminution Control rod travel-
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
2388 + 766 L	0,25		0,1 - 0,2
2388Z + 766 L)		0,14	0,8 - 0,9
2388 + 584 DL	0,25		0,1 - 0,2
2388Z + 584 DL)		0,14	0,8 - 0,9
L		<u> </u>	

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

En

Test Specifications
Fuel Injection Pumps (2)
and Governors

40

WPP 001/4 DAF 8,3 a 1 3. Edition

En

PE 6 A 90 D 410 RS2387

RQ 225/1200 AB748L

supersedes 6.76

------ 050 ADA 10

company: Van

EP/RSV 250-1200 A5 B612DL ./.

engine:

van Doorne DH 825

Testing with "B" leads

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,3 + 0,1(RW9)

Port closing at prestroke

Testoil-ISO 4113

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,8 - 6,3	0,4			
	6 12	2,5 - 3,4 10,0 -11,1				
200 Port Clos	9	3,2 - 4,4 erence between d	ontrol-ro	d travel	9 mm and 21 -	
4.5-5.5° ca		ence between t	.0110101-10	u craver	Milli alla ZI =	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ ... 748L

PRG che	Checking of slider PRG check Control rod travel mm 1 2			ntrol Control d travel rod travel			Setting point Test specifications 5 Control rod travel travel				rev/min	Control rod (3) travel mm
650 1200		, ,	r		(16,8 9		0	150 250 400 500	9,0-11,7 7,1-10,0 1,8- 5,2 0	-	-

Torque-control travel on flyweight assembly dimension a =

mm

1245-1260 Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test oil terr	elivery on ontrol lever pp. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics	Starting for Idle spee	Control
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	cm ³ /1000 strokes / mm 7
1000	69,5 - 71,5					
						./.

Checking values in brackets

EP/RSV .. 612 DL

	r rated speed Control rod travel mm		Interme	ediate rate	ed speed	Control- lever deflection in degrees 7	- Lower	rated speed Control rod travel mm	(3) To rev/min	rque control Controi rod travel mm
ca.56	1200 1260 1330	16,0 11,7 5,6	with spr		uxilia	ca.22 y	250 150 250	6,0 19 -21 5,7-6,3	600	0
29	1280 1350 1450	8,7-10,8 2,3- 5,5 0,3- 1,0	with spr	n auxi ing	liary		350 470	2,1-3,8 0 - 1	300	0,8-1,0

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	ill-load stop	6 Rotational- speed limitat				uel delivery 5	(4a) Idle stop		
Test oil to rev/min 1	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	Idle rev/min 6	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9	
1000	69,5 - 71,5	1240-1250*							

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

1 Uppe	r rated speed	rev/min	Interm	ediate rated	d speed	0	Lowe	r rated speed	3 To	rque control i Control rod
Degree of deflection	travel	travel		1	1	Control- lever	1	travel	ļ	travel
of control	mm	mm rev/min	1			deflection in degrees	rev/min	mm	rev/min	mm
lever 1	2	3	4	5	6	7	8	9	10	11
									1	
						İ			-	
		•	1						İ	
									1	
29										

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	Rotational-speed limitat. Fuel delivery characteristics			Starting fuel delivery 5 da Idle stop			
rev/min	cm ³ /1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	travel mm 9

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 1. Edition

PES 4 A 85 D 210 RS2576

EP/RSV 300-1150 A2B2069R

supersed∈s

company engine

D. Brown 45500

1 - 2 - 4 - 3

± 0,50

0 -90 -180-270° (+ 0,75)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,70-2,80

Port closing at prestroke (2,65-2,85)

mm (from BDC)

Rotational speed	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes	cm³/ 100 strokes 4	mm 2	cm\$100 strokes	mm 6
800	9,8-9,9	6,0-6,2	0,3(0,45)			
300	6,9-7,1	0,9-1,5	0,2(0,4)	,		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		intermed	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	9	rque control Control rod travel mm
loose	800 ×	0,3-1,0 = 4,0				ca.20	300 100 300	6,5 min. 19 6,9-7,1	800 500	9,8-9,9 9,8-9,9
ca.46	1225-1	200 = 8,8 255 = 4,0 0,3-1,7						150 = 2,0 0 - 1	Į.	11,1-11,7

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop amp 40°C (104°F) cm ⁹ /1000 strokes	Rotational- speed limitat Note changed to) rev/min	el delivery aracteristics cm ³ /1000 strokes	Starting for the starti	cm ³ /1000 strokes	•	Control rod travel mm
800	61,0 - 62,0 (59,0 - 64,0)	1190-1200*		100	114,5- 124,5		

Checking values in brackets

* 1 mm less control rod travel than col 2

5.79

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estoil-ISO 41

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4

1. Edition

En

PES 6 A 95 D 410 RS 2536

RSV 400-1100 A 2 B 2018 DL

supersedes

company engine

John Deere 6455 T

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 41

(1.8 - 2.0)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes	cm³/ 100 strokes 4	mm 2	cm³/100 strokes 3	mm 6
1100	10,0-10,2	9,7-9,9	0,3(0,5)			
400	6,0-6,1	1,2-1,6	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Intermed	hate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm 9	11 4 1	rque control Control rod travel mm
100se	800	0,3-1,7				ca.21	400	5,5	1100	0
ca.43	x =	3,4 9,2					100 400	19 - 21 5,9-6,0	1000 800 650	0,1 0,6 0,8
28	1200	5,1					480-540	= 2,0	050	0,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

6	ill-load stop emp 40°C (104°F)	Rotational- speed limitat	speed limitat Characteristics			Starting fuel delivery 5 4a idle st		
rev/min	1 _	changed to 3 rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
LDA 1100	0,50 bar 95,5-105,5 (94,5- 98,5)	1145-1155* (1140-1170)		0,50 bar 105,0-108,0 (104,0-109,0) 0 bar 73,5- 79,5 (71,5- 81,5)	100 400 1200	164-184 12 -16 19-29		•

Checking values in brackets

* 1 mm less control rod travel than col 2

10.79

BOSCH

Geschaftsbereich KH. Kundendienst. Kf2-Ausrustung

L. 1980 by Robert Bosch GmbH. Postfach 50. Q-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en Republique Federale d'Allemagne par Robert Bosch GmbH.

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
2536 + 2018 DL	0,13 - 0,16	0,41 - 0,48	

Notes:

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

Testoil-ISO 4113

40

WPP 001/4
2. Edition

En

PES 4 A 75 D 410 RS 2553

EP/RSV 250-1200 A1 B1114DL

supersedes

company

engine

7.78 Steyr WD 408.43

All test specifications are valid for Bosch Fuel injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2,40-2,60)

mm (from BDC)

Rotational speed	travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm³/100 strokes	100 strokes	mm 2	cm-7100 strokes	mm 6
1-2	40.0		0.0/0.35	<u></u>		
1200	10,3	5,6 - 5,7	0,2(0,35)		400 00 00 00 00 00 00 00 00 00 00 00 00	j
	+ 0,1	0.0.4.5	0.0(0.2)			
250	5,9-6,1	0,9 - 1,5	0,2(0,3)	i		
1000/500		C, 4 - 5	0,3(0,4)	1	İ	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

11 1	r rated speed Control rod travel	rev/min Control rod travel	Interme	diate rated	speed	Control- lever	Lower	rated speed Control rod travel	3 To	rque control Control rod travel
of control lever	mm 2	mm rev/min 3	4	5	6	deflection in degrees 7	rev/min 8	19 9	rev/min 10	mm 11
1 oose	800	0,3 - 1,0				ca.21	250	5,5	1200	+ 0,1
	х =	= 4,0					100 250	min.19 5,9-6,1	1100	10,3 10,6
ca.61		250 = 9,3	1				410-4	70 = 2,0	500	10,8
2 a	1255-1 1400	1285 = 4,0 0,3-1,7					600	0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(A)	ill-load stop	6 Rotational- speed limitat	1842344.8	el delivery aracteristics	fuel delivery 5	4a Idle stop		
rev/min	emp. 40°C (104°F) cm ³ /1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm ¹ /1000 strokes 7	rev/min 8	travel mm
1200	56,0-57,0 (54,5-58,5)	1240-1250*	1000	55,0-57,0 (53,5-58,5)	100	94,5- 104,5		
			500	48,5-50,5 (47,0-52,0)				

Checking values in brackets

* 1 mm less control rod travel than col. 2

5.79

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Federale d'Allemagne par Robert Bosch GmbH.

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 DAF 6,2 c 2

3. Edition

PE 6 A 90 D 320 RS2384

RQ 250/1200 AB653R

EP/RSV 250-1200 A5 B523R ./.

supersedes company:

8.76 DAF

engine:

DT 615

Testing with "B" leads

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,2+0,1 (RW 9) mm (from BDC)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3		Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,1 - 5,5	0,4			
	6	1,6 - 2,6				
200	9	2,9 - 3.9				
** Port c 2.5-3.5°	osing d	ifference betwee	n control	rod trav	el 9 mm and 21	-

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ .. 653R

Checking		Full-load 9			cifications (4)	Idle spec			cifications (5)	Torque control (3)		
	Control rod	Setting por rev/min 3	Control rod travel rnm	Control rad travel	rev/min	rev/min	Control red travel	rev/min 9	Control rod	rev/min	Control rod travel	
650 1250	19,7-20,3 Breakaway	650 (Cont lever ca.49	rol		10,6-20,0 15,0-18,8 9,5-15,2 0 - 9,0 0 - 1	610	0	150 250 350 450 510	9,0-11,7 7,1-10,0 4,0- 7,2 0 - 3 0	_	-	
	<u></u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	1	٠	1			1 mm lare contro	

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of governor of Test oil ter	lelivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics	3ь)	Starting f Idle spee	Control
rev/min	cm ³ /~1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5		rev/min 6	cm³/1000 strokes:/ mm
LDA	0,5 bar		LDA	0 bar			
1000	70,0-72,0 69,0-73,0		600	50,0-52,0 49,0-53,0			
ľ							./.

Checking values in brackets

4.77

B. Governor Settings

EP/RSV ... 523R

	r rated speed Control rod travel mm 2	rev/min Control rod travel mm rev/min 3	Interme	ediate rated		Control- lever deflection in degrees 7	Low rev/min 8	er rated speed Control rod travel mm	rev/min	rque control Control rod travel mm
ca.56	1200 1280 1330	16,0 10,2 5,8	with spri	nout au ing	ıxilia	ca.22	250 150	6,0 19 - 21	500	0
29	1260 1350 1460	10,6-11,6 2,7- 5,8 0,3- 1		n auxil ing	liary		250 350 450	5,7-6,3 1,6-3,7 0 - 1	250	0,3-0,5

C. Settings for Fuel Injection Pump with Fitted Governor

2 b Fu	li-load stop	6 Rotational- speed limitat.		el delivery aracteristics	Starting f	Starting fuel delivery 5 4a Idle stop			
Test oil te rev/min	mp. 40°C (104°F) cm³/1000 strokes	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min 8	Control rod travel mm	
LDA 1000	0,5 bar 70,0-72,0	1240-1250	LDA 600	0 bar 50,0-52,0					

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

Testoil-ISO 4113

700 rev/min increasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
2384 + 653R) + 523R)	0,28	0,19	0,1 - 0,2 0,8 - 0,9

Notes:

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

En

②

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps (2) and Governors

44

WPP 001/4 DAF 6,2 b 1
3. Edition

<u>En</u>

PE 6A 85D 320 RS 2385

RQ 250/1200 AB 662 R (1) 250/1300 (2) supersedes company:

engine:

6.76 van Doorne DD 575 (1)

Testing with "B" leads

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 + 0,1

mm (from BDC)

Rotational speed rev/min	Control rod travel • mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,1 - 4,5	0,4			
	6	1,0 - 1,8				
200	9	2,1 - 2,9				
**. Port cl	osing di camshaft	fference between	control-	rod trave	1 9 mm and 21	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

250/1200

(1)

Checking of slider PRG check Control rev/min mm 1 2	(1)	Full-load s Setting po rev/min 3			rev/min	Idle spec Setting p rev/min 7	Control rod travel	Test spe	cifications (5) Control rod travel mm	rev/min		3
1 4 4 4 4 4	-20,3 kaway	650 (Con level ca.4	trol	1200 1250 1300 1380 1480	19,6-20,0 15,0-18,8 9,5-15,2 0 - 9 0 - 1	470	0	100	9,0-11,7		-	

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test oil ten	elivery on ontrol lever np. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics (3b)	Starting for	Contrai
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	red travel cm ³ /1000 strokes / mm 7
1000	48,5 - 50,5 47,5 - 51,5					

Checking values in brackets

B. G(overnor Se	etting	3				250/	1300	(2)	UAF	6,2 b		-7
PRG che	Control rod travel	1 1	-	-	rev/min	Idle spee Setting p rev/min 7	Control rod travel	Test spe rev/min 9	Contro travel	\ ~ ,	rev/min	Control rod travel *** mm	(3
550 1300	19.7-20,3 Breakaway	550 (Cont lever ca.49		1300 1350 1400 1440 1540	19,6-20,0 13,6-18,2 6,6-14,0 0 -10,2 0 - 1		0	100 200 300 380	7,2	-11,5 -10,1 - 5,7 - 1		-	

Torque-control travel on flyweight assembly dimension a =

Speed regulation At

1 mm/less-control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d governor o	elivery on control lever np 40°C (104 F)	Control rod stop	Fuel delive	ery characteristics (3b)	Starting f	uel delivery d Control
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min	red travel cm ⁹ /1000 strokes / m m?↓↓ 7
1000	54,5 - 56,5					
		: 1				

Checking values in brackets

B. Governor Settings

Checking PRG che	g of slider ck	1	Full load Setting pr	oad speed regulation ng point : Test specifications (idle speed regulation Setting point Test specifications 5				Torque control		
ļ	Control rod travel mm		i :rev/min :3	Control rod travel mm	control rod travel mm	rev/min	rev/min 7	Control rod travel mm 8	rev/min	travel mm	rev/min	Control rod travel mm 12		
								į		1				

Torque-control travel on flyweight assembly dimension a =

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d governor o Test oil ten	relivery on control lever np 40°C (104°F)	Control rod stop	Fuel delive	ery characteristics 3b	Starting for	Control *
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min 4	cm ³ /~1000 strokes 5	rev/min 6	riod trayel cm ³ /1000 strokes / mm ** 7

Checking values in brackets

WPP 001/4 SCL 5,7 b 1. Edition

PES 6 A 85 D 410 RS2268 RS2268Z EP/RSV 250-1000 A1 B635DL

supersedes company

Schlüter **SDMT 110 W6**

engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,5 + 0,1

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (forque-control valve)
rev/min		cm³/100 strokes	cm³/ 100 strokes	mm	cm ⁹ /100 strokes	mm
1	2	[3	14	2	3	6
1000	9	4,2 - 4,5	0,4			
	6	0,7 - 1.4				
200	9	1,4 - 2,3				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

	r rated speed Control rod travel mm 2				Control- lever deflection in degrees 7	rev/min	rated speed Control rod travel mm	1(3)	rque control Control rod travel mm	
ca.52	1000 1050 1080	16,0 10,4 6,0	with spri	out au ng	xil ia	ca.22 y	250 150 250	8,5 19 - 21 8,2-8,8	980 790	0 0,3-0,5
23	1050 1100 1250	9,0-11,5 5,0- 7,0 0,3- 1,0					450 650	1,9-5,2 0 - 1	400	0,4-0,6

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

- 1 -	روع	II-load stop	6 Rotational- speed limitat	el delivery aracteristics	Starting fuel delivery 5 48 Idle stop				
	1	mp 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min 4	cm ² /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7		Control rod travel mm 9
	1000	82,5 - 84,5*	1040-1050	700	84,5 - 87,5 78,5 - 81,5	100	min.20mmRW	250	8,5
	22687 1000	86,0 - 98,0*	1040-1050	500	88,0 91,0				

Checking values in brackets

* 1 mm less control rod travel than col 2

12.76

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. 1980 by Robert Bosch GmbH. Postfach So. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany imprime en Republique Féderale d'Allemagne par Robert Bosch GmbH.

WPP 001/4 KAE 8,1 c

3. Edition

PES 6 A 90 C 410 RS 2251

..D..

RS 2251Z**

EP/RSV 250-1100 A1 B41 **B29** (V9555) supersedes company engine

5.69, 4,72 Kaelble MD 215 sT MD 215:**

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2.15 + 0.1

mm (from BDC)

Rotational speed rev/min	Control rod travel	Fuel delivery "C" cm³/100 strokes	Difference cm³/ 100 strokes	Control rod travel	Fuel delivery "D" cm³/100 strokes	Spring pre-tensioning (torque-control valve)
1000	9	5,8 - 6,3	0,4	9	5,1 - 5,5	
	6 12	2,5 - 3,4 10,0 -11,1		6 -	1,6 - 2,6	
*** 200	9	3,2 - 4,1	Lutual mad	6	1,9 - 2,9	0,1/5-6° camshaf

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

Uppe	r rated speed	rev/min	Interme	diate rate	d speed	(4)	Lower	rated speed	11 9 /	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min				Control- lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3 .	4	5	6	ca.27				
ca.64	1100	16,0	l		•••	ļ	250	6,0	1080	0
	1150 1200	12,1 6,8		without auxilia spring			100	19 - 21	400	0
29	1200 1250 1350	4,0-8,2 0,8-3,5 0 - 1	with auxiliary spring				250 350 450	5,7-6,3 1,1-3,5 0 - 1	300	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b Fu	II-load stop	6 Rotational- speed limitat		iel delivery paracteristics	Starting f	uel delivery 5	(4a) Idi	e stop
Test oil te rev/min 1	cm ³ /1000 strokes	Note changed to) rev/min 3	rev/min	cm=/1000 strokes	rev/min 6	cm=/1000 strokes 7	rev/min 8	Control rod travel mm 9
1100	97,0-99,0	1140-1150			100	ca. 20 mmF	W	
Z 1100	78,0-80,0	1140-1150						

Checking values in brackets

* 1 mm less control rod travel than col 2

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung c. 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en Republique Federale d'Allemagne par Robert Bosch GmbH.

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WPP 001/4 DAF 6,2 b 2 3. Edition

En

PE 6 A 85 D 320 RS2385

EP/RSV 250-1300 A1B514R 250-1200 A1B514R 250- 900 A7B566R (1) supersedes company

engine

8.76 DAF DF 615

DF 615 (1) DD 575 (2)

Testing with "B" leads

Port closing at prestroke

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,15+0,1

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm ³ /100 strokes	100 strokes	mm	cm ⁹ /100 strokes	mm
1	2	3	4	2	3	6
1000	9	4,1 - 4,5	0,4			
	6	1,0 - 1,8				
200	9	2,1 - 2,9				
	sing diffe amshaft.	rence between	control-rod	travel 9	mm and 21 =	

Adjust the fuel delivery from each outlet according to the values in Γ

B. Governor Settings

250-1300 (1)

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	lever deflect			Control-	Lowe rev/min 8	Control rod travel mm	3 To	rque control Control rod travel mm 11
ca.72	1300 1340 1380	16,0 11,2 5,7	without auxiliar spring with auxiliary spring			ca.26 y	250 100 250	6,0 19 - 21 5,7-6,3	400	0
29		7,0-10,0 2,2- 5,4 0,3- 1					300 440	3,8-4,8 0 - 1	290	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	6 Rotational- speed limitat		iel delivery naracteristics	Starting fi	uel delivery 5	4a Idle stop	
rev/min	emp 40°C (104°F) cm³/1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
1000	54,5 - 56,5 (53,0 - 58,0)	1340-1350*			100	max.RW	250	6,0
								./.

Checking values in brackets

* 1 mm less control rod travel than col 2

2.77

BOSCH

B. Governor Settings

250-1200 (2)

Degree of deflection of control lever	of control mm mm rev/min			Intermediate rated speed			Control- lever deflection in degrees 7 Lower rated speed Control rod travel mm			rque control Control rod travel mm
ca.72	1300 1340 1380	16,0 11,2 5,7	*	19	<u> </u>	ca.26	250 100 250	6,0 19 - 21 5,7-6,3	400	0
29		7,0-10,0 2,2- 5,4 0,3-1	**				300 440	3,8-4,8 0 - 1	290	1,2-1,0

C. Settings for Fuel Injection Pump with Fitted Governor

(4)	ill-Icad stop	6 Rotational- speed limitat.		el delivery aracteristics	Starting f	uel delivery 5	4a) Idl	Idle stop	
rev/min	emp. 40°C (104°F) cm³/1000 strokes	Note: changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	travel mm 9	
(2)	With motor DD and quantity r	575 pay atto eduction on	ntion namep	to speed late!	100	max. RW	250	6,0	

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

250-900

Uppe Degree of deflection of control lever	r rated speed Control rod travel mm		Intermediate rated speed			Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm		rque control Control rod travel mm
ca.57	900 930	16,0 11,6	* 4	ithout	auxil	ca.24 iary	250	6,0	600	0
2	960 950 970 1020	5,2-9,6 2,2-6,0 0,3-1,0	** v	pring vith aus pring	xiliaı	у	100 250 300 370	19 - 21 5,7-6,3 2,4-4,0 0 - 1	370	1,2-1,8

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) F	uli-load stop	6 Rotational- speed limitat		el delivery eracteristics	Starting f	uel delivery 5	4a Idle stop	
Test oil 1 rev/min 1	temp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min 6			Control ro J travel mm 9
In a	accordance with	special name	plate	on pump!	100	max. RW	250	5,0
		940-950						

Checking values in brackets

* 1 mm less control rod travel than col. 2

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WPP 001/4 DAF 6,2 d 2. Edition

En

PE 6 A 80 D 320 RS 2408

EP/RSV 250-900 A7B566R 250-900A5B566R 250-1250A2B566R supersedes company

engine

2.74 D A F DA 475

Testing with "B" leads

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

**

Port closing at prestroke

Testoil-ISO 4113

2,15+0,1 (RW9)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ⁹ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,6 - 5,0	0,3			
	6	2,0 - 2,8				
200	6	0,1 - 0,7				
** Po	rt closing -3,5° _{camsh}	differance be	tween contr	ol-rod tra	vel 9 mm and 2	1 =

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

250-900 A7B566R

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Interme	diate rat	ed speed	Control- lever deflection in degrees 7	Lowe rev/min 8	r rated speed Control rod travel mm 9	rev/min	rque control Control rod travel mm
ca.57	900 930 960	16,0 11,6 6,0	with spri		uxilia	ca.24 y	250 100 250	6,0 19 - 21 5,7-6,3	880 370	0
29	950 970 1020	5,2-9,6 2,2-6,0 0,3-1	with spri		liary		300 370	2,4-4,0	290	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(II-load stop emp 40°C (104°F)	Rotational- speed limitat Note changed to)		el delivery aracteristics	Starting fi Idle	uel delivery 5	Idle stop Control roo	
rev/min	cm³/1000 strokes	rev/min	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm 1/1000 strokes 7	rev/min 8	mm 9
900	47,5-49,5 (46,5-50,5)	930-940*	·	·	100	max.RW	250	6
								./.

Checking values in brackets

* 1 mm less control rod travel than col. 2

2.77

BOSCH

B. Governor Settings

250-900 A5B566R

14 6 2	r rated speed Control rod travel mm				Control- lever deflection in degrees 7		rated speed Control rod travel mm	3 To rev/min 10	rque control Control rod travel mm	
ca.42	900 960 1020	16,0 11,0 5,0	*			ca.19	250 150 250	6,0 19 - 21 5,7-6,3	880	0
29	1000 1050 1120	5,0-8,6 1,1-4,0 0,3-1,0	**				400 540	1,5-3,7 0 - 1	400	1,2-1,8

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	III-load stop	6 Rotational- speed limitat		uel delivery paracteristics	Starting f	uel delivery 5	48 Idle stop		
Test oil to rev/min 1	emp. 40°C (104°F) cm³/1000 strokes 2) Note: changed to)		cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	travel mm 9	
850	45,5-47,5 (44,5-48,5)	930-940*			100	max. RW	250	6,0	

Checking values in brackets

estoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

250-1250 A2B566R

	r rated speed Control rod travel mm		Intermo	ediate rated		Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	9	rque control Control rod travel mm
ca.52	1250 1320 1400	16,0 11,4 5,0		vithout spring	auxil	ca.21 iary	250 150	6,0 19 - 21	1230	0
29	1370 1420 1520	5,8-9,0 1,8-5,2 0,3-1,0	** v	with aux spring	xiliar	у	250 400 560	5,7-6,3 1,7-4,0 0 - 1	400	1,2-1,8

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop emp. 40°C (104°F)	Rotational- speed limitat.		el delivery aracteristics	Starting f	uel delivery 5	tdle stop Control rod travel	
rev/min	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	mm 9
1000	46,0 - 48,0 (45,0 - 49,0)	1280-1290*			100	max. RW	250	6,0

Checking values in brackets

* 1 mm less control rod travel then col. 2

WPP 001/4 HOR 1,3 b

3. Edition

8.77 supersedes EP/RSV 400-1150 A1B1042L (1)PES 2 A 65 D 410/3 RS 1273 Holder EP/RSV 400-1150 A1B1042L company (2) PES 3 A 65 D 410/3 RS 1274 VD 2 (1,3 - 1) VD 3 (2,0 - 2) engine

A. Fuel Injection Pump Settings

1,90-2,00 Port closing at prestroke (1,85-2,05)

mm (from EDC)

6.0 mm RW

Rotational speed rev/min	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ² /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	11,1	4,2 - 4,3	0,2 (0,3)			
400	+0,1 7,7-7,9	0,9 - 1,5	0,2 (0,3)			

Adjust the fuel delivery from each outlet according to the values in E

B. Governor Settings

Testoil-ISO 4113

1042L(1-2)

	r rated speed Control rod travel mm		Interme	diate rated	speed	Control- lever deflection in degrees 7	1	rated speed Control rod travel mm 3		que control Control rod travel mm
loose	800	0,3-1,0				ca.22	400 100	7,2-7,4 min.19	400 with	contact
ca.56	10,1 4,0 1450	1190-1200 1220-1250 0,3-1,7				,	400 560-620 700	7,7-7,9 = 2,0 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop	Rotational- speed limitat	2 0.5	iel delivery aracteristics	Starting for	uel delivery 5	4a Idio	e stop
rev/min	emp 40°C (104°F) cm ⁸ /1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ³ /1 000 strokes 5	rev/min 6	cm ⁹ /1000 strokes 7	rev/min 8	Control rod travel mm 9
PE2. 1150		(1 - 2) 1190-1200*			100	54,5-69,5 (min.54,5)		

Checking values in brackets

* 1 mm less control rod travel than col 2

12.77



40

WPP 001/4 #0R 1,3 a
4. Edition

En

PES 2 A 65 D 410/3 RS 1273

PES 3 A 65 D 410/3 RS 1274

EP/RSV 250-1150 A 1 B 1042

EP/RSV 250-1150 A 1 B 1042

supersedes company

engine

11.74 Holder VD 2 (1,3) VD 3 (2,0)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,9 + 0,1

mm (from BDC)

RW 6

Rotational speed	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes	cm ³ / 100 strokes	mm 2	cm ⁹ /100 strokes	mm 6
1000	6	1,7 - 2,0	0,3			
	9	3,2 - 4,0				
200	6	3,2 - 4,0 0,4 - 1,1				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

estoil-ISO 41

EP/RSV 250-1150 A 1 B 1042

Degree of deflection of control lever	r rated speed Control rod travel mm		Interme	ediate rated	speed	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	1(3)	rque control Control rod travel nm
ca.64	1150 1200 1240	16,0 10,8 5,6	with spr	nout au	uxilia	ca.25 ry	250 100 250	6,0 19 - 21 5,7-6,3	1130	0
29	1220 1250 1350	6,0-10,0 2,6- 6,4 0,3- 1,0	with spr	h auxi ing	liary		300 450	3,9-5,0	300	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	Rotational- speed limitat		el delivery aracteristics	Starting f	uel delivery 5	4	e stop Control rod
rev/min	cm ³ /1000 strokes	changed to) rev/min 3	rev/min 4	cm#1000 strokes 5	rev/min 6	cm ² /1000 strokes 7	rev/min 8	travel mm 9
PE 2 1150	+ PE 3: 41,5 - 43,5	1170			100	54,5-69,5		

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

ravel than col:

WPP 001/4 HOR 1,0 a

3. Edition

12.71 EP/RSV600-2300A9B236D,237D PES2A55C410/3 RS1173,1222 supersedes Holder ..B236D,237D PES3A55C410/3 RS1174,1233,1226 company HD 2 ..B1016D PES2A55C410/3 RS1222 engine HD 3 ..B1017D PES3A55C410/3 RS1223

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,7 + 0,1

mm (from BDC)

RW 9

En

Rotational speed	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes 3	cm³/ 100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6
1000	12	2,5 ~ 3,1	0,3	12	2,9 - 3,3]
	9	0,7 - 1,5]	9	1,2 - 2,0	
200	9	0,6 - 1,3		9	0,9 - 1,7	
						,

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

..236D

	r rated speed Control rod travel mm		Interme	diate rated	speed	Control- lever deflection in degrees 7	Lowe rev/min 8	r rated speed Control rod travel mm 9	3 To	rque control Control rod travel mm
ca.67	2300 2400 2600	16,0 13,0 5,7	with spri	out au	xiliaı	ca.26 y	600 200 600	6,0 19,0-21,0 5,7- 6,3		0 0,6-0,8 0,7-0,9
29	2520 2660 3000	7,4-10,3 3,0- 5,5 0,3- 1,0	with spri	auxil ng	iary		800 1400	4,0- 5,0 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	Speed limitat	3 Fu	ei delivery aracteristics	Starting fi	uel delivery 5	4a Idi	e stop
Test oil to rev/min 1	cm ³ /1000 strakes	Note changed to) rev/min 3	rev/min 4	cm=/1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
PE 2 2280	PE 3: 18,2 - 19,2	2320	1800	20,2 - 22,2				
								./.

Checking values in brackets

* 1 mm less control rod travel than coi. 2

12.75

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung.

4. 1980 by Robert Bosch GmbH. Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en Republique Federale d'Allemagne par Robert Bosch GmbH.

B. Governor Settings

	r rated speed Control rod travel mm		Interme	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	11 5 1	rque control Control rod travel mm
ca.70	2400 2540 2680	16,0 11,8 6,7	*			ca.26	600 250 600	6,0 19 - 21 5,7-6,3	2400 800	0 1,1-1,3
29	2640 2800 3100	6,4-9,6 1,8-4,4 0,3-1,0	**			1	900 1300	2,8-4,4 0 - 1		

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	H-load stop	6 Rotational- speed limitat.		el delivery aracteristics	Starting f	uel delivery 5	(4a) Idle	s stop
Test oil to rev/min 1	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	travel mm 9
PE2 2200	+ PE3: 18,2 - 19,2	2320	1800	20,2 - 22,2				

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

1016D +1017

	r rated speed		Intermediate rated speed			Lower rated speed			Torque control	
Degree of deflection of control	Control rod travel mm	Control rod travel mm rev/min				Control- lever deflection in degrees	rev/min	travel	rev/min	travel mm
lever 1	2	3	4	5	6	7	8	9	10	11
ca.67	2300	16,0				ca.26	600	6,0	1016D	
	2450 2600	11,5 . 5,6] *	withou spring		liary	250 600	19 - 21 5,7-6,3	2300 800	1
29	2450 2600 2950	10,5-12,0 3,8- 7,5 0,3-1,0		with a spring		ry	1000	1,8-3,8	1017D 2300 800	

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Ful	II-load stop	6 Rotational- speed limitat. Speed limitat.			Starting fuel delive (5) 4a Idle stop			
1 1	mp. 40°C (104°F) cm ⁹ /1000 strokes 2	Note: changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9
PE2A								
2300	15,2 - 16,2	2340-2350	1700	18,2 - 20,2				
PE3A	ŕ							
2300	13,7 - 14,7	2340-2350	1700	18,7 - 20,7				

Checking values in brackets

* 1 mm less control rod travel than col. 2

VDT-WPP 001/4 1. Edition

PES 4 A 85 C 410 RS 2341

EP/RSV 250-1100 A7 B560

supersed€s

company

Steyr

engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1

mm (from BDC)

Rotational	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
1000	9	6,5 - 7,0	0,4	9	5,6 - 6,0	
	6	2,3 - 3,1		6	2,3 - 3,1	
200	6	1,3 - 2,2		6	0,1 - 0,7	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

14 8 9	rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Intermed	hate rated		Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	11 5 /	que control Control rod travel mm
ca.73	1130 1160	16,0 11,2 4,5	with spri	out au ng	xiliaı	ca.25 y	250 100 250	6,0 19 - 21 5,7-6,3	1080 300	0
20	1140 1180 1260	7,5-10,5 2,0- 3,6 0 - 1	with spri	auxil ng	iary		350 440	0,6-3,2	300	1,2-1,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

Test on te	III-load stop emp 40°C (104°F) cm ² /1000 strokes 2	Rotational- speed limitat Note changed to) rev/min 3	Ge Fu ch rev/min 4	el delivery aracteristics cm ³ /1000 strokes 5	Starting fiddle rev/min 6	cm³/1000 strokes	•	Stop Control rod travel mm 9
750	52,5 - 54,5	1110-1120						

Checking values in brackets

* 1 mm less control rod travel than col 2

3.76

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WPP 001/4 2. Edition

PES 4 A 85 C 320/3 RS2338 EP/RSV 350-1250 A1 B279R

supersedes 5.72

PES 6 A 85 C 320/3 RS2339

EP/RSV 350-1250 A1 B279R

Motori VM w 10450, 954SU engine W 106SU, 956SU

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

3,0 + 0,1

mm (from BDC)

-RW 9 -

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes	cm ⁹ / 100 strokes 4	mm 2	cm\$100 strokes 3	mm 6
1000	9	4,9 - 5,5	0,4			<u>]</u>
200	6 15 6	1,3 - 2,1 12,3 -13,1 0,1 - 0,9	·			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

	r rated speed Control rod travel mm	Control rod travel mm rev/min	Intermed	nate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	11 3 /	rque control Control rod travel mm
ca.70	1250 1300 1350	16,0 11,0 4,2	witho sprin	out aux	xiliaı	ca.27	350 200 350	6,0 19 - 21 5,7-6,3	1230 500	0
29	1320 1360 1450	6,2-9,6 2,1-5,0 0,3-1,0	with sprin	auxil ng	iary		420 500	1,5-2,6 0 - 1	380	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop	6 Rotational- speed limitat		el delivery paracteristics	Starting f	uel delivery 5	4a ldl	e stop Control rod
rev/min	omp 40°C (104°F) cm²/1000 strokes	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
1230	53,0 - 55,0	1270			100	103,5- 119,5		-

Checking values in brackets

* 1 mm less control rod travel than col 2

11.76

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WPP 001/4
1. Edition

En

PES 4 A 90 D 410 RS2442, Z

EP/RSV 325-1000 A4 B1078D

su≎ersed∈s

company engine

oy OMB CO3..

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2.15 + 0.1

mm (from BDC)

Rotational speed	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
1000	9	5,1 - 5,5	0,4			
	6	1,6 - 2,6				
200	9	1,9 - 2,9				
	}			1		<u> </u>

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

Degree of deflection of control lever	r rated speed Control rod travel mm		Interme	diate rate	ed speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	(3)	rque control Control rod travel mm
ca.53	1010 1040 1060	16,0 10,0 4,2	with spri		uxilia	ca.21	325 100 325	6,5 19 - 21 6,2-6,8	980 300	0 0,2-0,8
2	1010 1060 1080	ca. 9,8 ca. 4,2 0,3-1,0	with spri	auxi ing	liary		450 600	1,5-3,8 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	II-load stop	6 Rotational- speed limitat	el delivery aracteristics	Starting f	uel delivery 5	e stop	
1	cm ⁹ /1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ⁹ /i000 strokes 7	travel mm 9
1000	84,0 - 86,0	1040-1050*	600	75,5 - 78,5			
"Z" 1000	86,0 - 88,0	1040-1050*	600	78,0 - 81,0			

Checking values in brackets

* 1 mm less control rod travel than col 2

7.79

BOSCH

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WPP 001/4 1. Edition

PE 4 A 90 C 421 LS 2157

EP/RSV 200-1000 A1B423R

supersedes

** Performance and quantity data in accordance with documentation from R B I T.

Motori VM company 413

A = 108 PS

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

= 114 PSF = 125 PS

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1

Rotational speed	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (forque-control valve)	
rev/min	mm 2	cm ³ /100 strokes 3	cm³/ 100 strokes 4	mm 2	cm ^{\$} /100 strokes 3	mm 6	
1000	9	6,1 - 6,8	0,4	. क्षेत्र क			
	6 15	2,3 - 3,1 13,6 -14,3					
200	9	3,2 - 4,1					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Setting

11 1 1	r rated speed Control rod travel mm					Control- lever deflection in degrees 7	Lower rev/min 8	Control rod travel mm	rev/min	rque control Control rod travel mm
ca.55	1000 1050 1090	16 11,4 5,8	with spri	out au ng	xiliaı	ca.24 y	100	6	980	0
29	1050 1100 1200	10,0-12,4 3,0-6,4 0,3-1	with spri	auxil ng	iary.		300 400	5,7-6,3 1,7-3,8 0 - 1	400 250	0 1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load stop Test on temp 40°C (104°F)		Rotational- speed limital Speed limital Characteristics		-		uel delivery 5	•	stop Control rod
1			rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7		travel mm 9
980	99,0 - 101,0	1010-1030					200	6,0
980	105,0 - 107,0	1010-1030				'		
980	118,0 - 120,0	1010-1030					غد	
9	min 80	oil temp 40°C (104°F) min cm³/1000 strokes 2 80 99,0 - 101,0 80 105,0 - 107,0	oil temp 40°C (104°F) min cm³/1000 strokes 2 80 99,0 - 101,0 1010-1030 80 105,0 - 107,0 1010-1030	oil temp 40°C (104°F) min cm³/1000 strokes 2 80 99,0 - 101,0 1010-1030 80 105,0 - 107,0 1010-1030	Oil temp 40°C (104°F) Note Changed to rev/min cm³/1000 strokes 2	Note Changed to rev/min cm³/1000 strokes 2 1010-1030	Oil temp 40°C (104°F)	speed limitat Note Characteristics Idle Conf. Con

Checking values in brackets

* 1 mm less control rod travel than col 2

11.77

VDT-WPP 001/4

1. Edition

PES 3 A 80 D 320 LS 1297

EP/RSV 250-1100 A1 B11

supersedes -

Lamborghini company

503 DT engine

603 DT

R 1003/1 R 1003/2

1 - 3 - 2 je 120°

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 + 0,1

mm (from BDC)

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ² /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1000	9	5,2 - 5,6	0,4			
	6	2,1 - 2,9				
200	6	0,4 - 1,1				
•						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Intermed	Intermediate rated speed 4 5 6			Lower rev/min 8	rated speed Control rod travel mm	(V)	rque control Control rod travel mm
ca.60	1100 1160 1190	16,0 9,6 5,5	with spri	out au ng	xilia	ca.25 ry	250 100 250	6 19 - 21 5,7-6,3	1080	0
29	1150 1200 1300	9,6-12,4 3,8-6,7 0,3-1,0	with spri	auxil ng	iary		300 450	4,0-5,0 0 - 1	300	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

9	II-load stop emp 40°C (104°F)	Rotational- speed limitat	speed limitat Characteristics			uel delivery 5		e stop Control rod travel
rev/min	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
1100	53,5-55,5	1130-1140*			100	64,9-80,9		
			ļ		-			
		•						

Checking values in brackets

* 1 mm less control rod travel than çol 2

10.75

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40

WPP 001/4
1. Edition

En

PES 2 A 85 C 310/3 RS 1217 PES 3 A 85 C 410/3 RS 1219 EP/RSV 250-750 A7 B164L EP/RSV 250-750 A7 B164L

supersedes company

Same Cassani 1152 SA

engine

1152 SA

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

RW 21

Port closing at prestroke

3,7 + 0,05

mm (from BDC)

Rotational speed	Control rod	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
revimin 1	mm 2	cm³/100 strokes	cm ⁹ / 100 strokes 4	mm 2	cm ⁹ /100 strokes	mm 6
1000	9	5,8 - 6,3	0,2			
	6	2,3 - 3,5				
200	9	3,3 - 4,3				
	** Port	closing differ	ence betwe	eh control	-rod travel 21	mm and 10,8=

5-6,5 camshaft.

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	crated speed Control rod travel mm	Control rod travel mm rev/min	Interme	Intermediate rated speed 4 5 6			Lower rev/min 8	rated speed Control rod travel mm 9	Control rod Cor travel rev/min mm		
ca .47	750 780 810	16,0 11,6 5,4	with spri		uxilia	ca.22 y	250 100 250	6,0 19 - 21 5,7-6,3	730	0	
23	800 850 920	5,0-9,0 1,4-3,0 0,3-1,0	with spri	auxil ng	liary		350 420	0,5-3,0 0 - 1	300	1,2-1,8	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp 40°C (104°F)	Note Speed limital		iel delivery iaracteristics	Starting f	fuel delivery 5 4a Idle stop		
rev/min	cm³/1000 strokes 2	changed to previous	rev/min 4	cm ¹ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
730	80,5 - 82,5 (10,8 mmRW)	760			100	129,5- 159,5		

Checking values in brackets

* 1 mm less control rod travel than col. 2

4.76



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WPP 001/4

1. Edition

PES 4 A 80 D 320/3 RS 1312

EP/RSV 300-1100 A1B11R

supersedes

Hürl imann

company engine

D 115 T

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15+0,1 (RW 9)

mm (from BDC)

Rotational speed	Control rod	Fuel delivery	Difference	Control rod travel	Spring pre-tensioning (torque-control valve)	
rev/min	mm 2	cm ³ /100 strokes 3	cm³/ 100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
1000	9	4,6 - 5,0	0,4			
	б	2,0 - 2,8				
200	6	0,1 - 0,7				
1	t closing 9,5 camsha	difference bet ft.	veen contro	l-rod trav	1 9 mm and 21	=

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	r rated speed		Intermediate rated speed			Lower rated speed Control rod Control r				
Degree of deflection of control lever	travel mm	Control rod travel mm rev/min				Control- lever deflection in degrees	rev/min	travel	rev/min	travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.60	1100	16,0			•••	ca.26	300	6,0	1180	0
	1140 1180	12,0 7,0	spr		auxilia	ry	100	19,0-21,0		1,2-1,8
2	1150 1240 1300	9,9-11,7 0,4- 3,0 0,3- 1,0					200 300 480	11,0-13,4 5,7- 6,3 0 - 1,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	ill-load stop	Rotational- speed limitat	Rotational- speed limitat Speed delivery characteristics				(de)	e stop
Test oil to rev/min 1	emp 40°C (104°F) cm³/1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm:/1000 strakes 7	revimin 8	Control red travel mm 9
1080	62,5-64,5	1140-1150*						

Checking values in brackets

* 1 mm less control rod travel than col 2

3.77

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VDT-WPP 001/4

3. Edition

En

PES 4 A 85 C 320/3 RS 2121 PES 4 A 85 D 320 RS 2423 EP/RSV 300-1000 A 1 B 41 (1) EP/RSV 300-1050 A 1 B 41 (2) supersedes 11.64, 10.74 company Hürlimann

D 300 (1)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

**

Port closing at prestroke

1.5 + 0.1

mm (from BDC)

Rotational speed	travel	Fuel delivery cm3/100 strokes	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm ⁹ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1000	9	5,5 - 5,9	0,4	9	5,6 - 6,0	
	6 12	1,6 - 2,6 9,4 -10,4		6	2,3 - 3,1	
200		0,4 - 1,3 ing difference	between c	6 ontrol-rod	0,1 - 0,7 travel 9 mm ar	d 21 =
		mshaft.				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1	rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Interme	diate rate	d speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	1(3)	rque control Control rod travel mm
ca.56	1050 1100 1150	16,0 10,2 3,0	with spri		ıxiliar	ca.25 y	300 100	6,0 19 - 21	1030	0
29	1150	8,4-12,0 2,4- 5,8 0,3- 1,0	with spri	auxil ng	liary		300 350 450	5,7-6,3 3,6-4,5 0 - 1	340	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	II-load stop emp. 40°C (104°F)	6 Rotational- speed limitat		iel delivery paracteristics	Starting f	uel delivery 5	42) Idl	e stop Control rod
1 1	cm ³ /1000 strokes	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ⁹ /1000 strokes 7	rev/min 8	travel mm 9
(1) (2)	ca.10 mmRW	1020 bzw.						·
1050	83,5-85,5	1090-1100			100	6,1-7,1		
					<u> </u>	<u> </u>		

Checking values in brackets

* 1 mm less control rod travel than col 2

6.75

BOSCH

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VDT-WPP 001/4 2. Edition

En

PES 6 A 95 D 420 LS 3024

EP/RSV 375-1100 A 2 B 754 DR 375-1100 A 2 B 763 DR ./.

supersedes

engine

Case A 504 BDT-204PS

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

 $2,0 \div 0,1$

min (from BDC)

Rotational speed	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm²/100 strokes 3	cm³/ 100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
1000	9	8,5 - 9,0	0,5			
200	6 15 6	4,0 - 5,0 16,5 -17,8 1,4 - 2,6				
200	0	1,4 - 2,0				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

EP/RSV .. 754 DR

Degree of deflection of control lever	crated speed Control rod travel mm	control rod travel mm rev/min	Interm	ediate rat	ed speed	Control- lever deflection in degrees 7	Lowe rev/min 8	r rated speed Control rod travel mm	3 To	control rod travel mm
ca.43	1120 1150 1200	11,8 8,2 1,8	wit spr	_	uxilia	ca.20	375 150 375	5,9 19 - 21 5,6-6,2	1100	0,6-0,9
28	1140 1180 1260	11,0-12,0 5,2- 7,0 0,3- 1,0	WIL	with auxiliary spring			450 530	1,6-3,6		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

4	ill-load stop	Rotational- speed limitat			Starting for	uel delivery (5)	ldle stop	
rev/min	emp 40°C (104°F) cm ³ /1000 strokes	changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm²/1000 strokes 7	rev/min 8	travel mm
1100	130,5-132,5	1140-1155*	750 650	137,5-141,5 max. 140,5	100	13,7-14,3	375	18-22
(incr	ease by ± 1,0 c	3 i)	1200	21,5- 27,5				

Checking values in brackets

* 1 mm less control rod travel than col 2

5.75

B. Governor Settings

EP/RSV...763 DR

Degree of deflection of control lever	r rated speed Control rod travel mm		Interme	Intermediate rated speed 4 5 6		Control- lever deflection in degrees 7	Lowe rev/min 8	Control rod travel mm	119/	rque control Control rod travel mm
ca.43	1115 1160 1220	10,8 7,3 1,2	with spri		uxilia	ca.22 y	375 150	6,0	1100	0
29	1140 1200 1280	ca.10,8 4,7-6,0 0,3-1,0	with spri		liary		375 450 560	5,7-6,3 2,7-4,1 0 - 1	500	0,1-0,4

C. Settings for Fuel injection Pump with Fitted Governor

U	ill-load stop	6 Rotational- speed limitat	39 FL	iel delivery naracteristics	Starting 1	fuel delivery 5	Idle stop		
Test oil te rev/min 1	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9	
1100	158,5-160,5	1140-1150*	700 600	161,5-165,5 max. 164,5	100	13,7-14,3	375	18-22	
			1225	11,5-17,5					
								ì	

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

Testoil-ISO 4113

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

En

VDT-WPP 001/4

1. Edition

En

PES 6 A 85 D 420 RS 2264

EP/RSV 375-875 A 7 B 696 R

supersedes company

Case

RS 2460

engine

A 504 BD

Test with case overflow valve! Pay attention to special governor setting!

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2.15 + 0.1

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes 3	cm ² / 100 strokes 4	mm 2	cm\$100 strokes	mm 6
1000	9	4,1 - 4,5	0,4			
	6 12	1,1 - 1,9 7,2 - 8,0				
200	6	0,9 - 1,7				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Interme	ediate rat	ed speed	Control- lever deflection in degrees 7	rev/min 8	Control rod travel mm	rev/min	rque control Control rod travel mm
ca.58	885 930 960	13,6 6,8 1,8		without auxiliar			375 100 375	8,0 19 - 21 7,7-8,3	875 350	0,2-0,8
23	930 960 1030	6,3-8,0 2,5-5,3 0,3-1,0	with		iliary		450 550	2,0-4,7 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

Hoad stop		11.3200	•	Starting fuel delivery 5		da idle stop Control rac	
cm³/1000 strokes	changed to) rev/min 3	rev/min	cm ³ /1 000 strokes 5	rev/min	cm#1000 strokes 7		travel mm 9
97,5 - 99,5	880-895	900 940	69,5 - 92,5 11,5 - 19,5	100	12,7-13,5	37 5	15,5 23,5
	mp 40°C (104°F) cm9/1000 strokes 2	mp 40°C (104°F) Speed limital Note changed to) rev/min 3	mp 40°C (104°F) cm²/1000 strokes 2 97,5 - 99,5 880-895 900	mp 40°C (104°F) cm3/1000 strokes 2 Note changed to 1 rev/min rev/min cm3/1000 strokes 3 4 97,5 - 99,5 880-895 900 69,5 - 92,5	speed limital Characteristics lidle Note changed to) rev/min cm³/1000 strokes 2 3 4 5 6 97,5 - 99,5 880-895 900 69,5 - 92,5 100	speed limital Note changed to rev/min cm³/1000 strokes 2 3 4 5 7 100 12,7-13,5	speed limital Characteristics Idle Note changed to 1 rev/min cm/1000 strokes 2 rev/min 6 7 8 97,5 - 99,5 880-895 900 69,5 - 92,5 100 12,7-13,5 375

Checking values in brackets

* 1 mm less control (od travel than col 2

8.74 Geschaftsbereich KM Ründendienst Kf2-Ausfüstung < 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany imprime en République Fédérale d'Allemagne par Robert Bosch GmbH.

VDT-WPP 001/4 3. Edition

PES 5 A 85 C 420 LS 2264

EP/RSV 375-1050 A 2 B 521 DR

29.10.70,29.4.71 supersedes

Case company A 451 BD

engine

.. D ... LS 2460

Test with case overflow valve! Pay attention to special governor setting!

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1

mm (from BDC)

Rotational	Control rod	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
1000	9	4,1 - 4,5	0,4			
	6	1,1 - 1,9				
	12	7,2 - 8,0				
200	6	0,9 - 1,7				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Cocree of	r rated speed Control rod travel mm		Intermed	nate rated	speed 6	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	I 3 /	rgue control Control rod travel mm 11
ca.40	1070 1110 1170	11,8 7,6 2,0	witho sprin		xiliar	ca.20 y	375 150 375	7,5 19 - 21 7,2-7,8	1	0 0,5 - 0,7
29	1090 1150 1260	11,3-11,9 4,7-5,8 0,3- 1	with sprin	auxil ng	iary		450 600	3,6-5,4 0 - 1	500	0,6 - 0,9

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	all-load stop emp 40°C (104°F) cm ⁸ /1000 strokes	Rotational- speed limitat Note changed to) rev/min		el delivery aracteristics cm=/1000 strokes	Starting to	uel delivery 5	•	Control rod travel mm
1	2	3	4	5	6	7	8	9
1050	76,0 - 78,0	1090-1105*	650 550	81,5 - 85,5 max. 84,5	100	12,5-13,5	375	15,5- 19,5
			1150	8,5 - 16,5				

Checking values in brackets

* 1 mm less control roo travel than col 2

8.74

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40

VDT-WPP 001/4

3. Edition

En

PES 6 A 85 C 420 LS 2264

EP/RSV 375-1100 A 2 B 605 DR

supersedes 17.2.71, 28.4.71

company Case engine A 401 BD

Test with case overflow valve!

Pay attention to special governor setting!

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 41

2,15 + 0,1

mm (from BDC)

Rotational	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ² /100 strokes (a)	cm³/ 100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
1000	9	4,1 - 4,5	0,4			
	6 12	1,1 - 1,9 7,2 - 8,0				
200	6	0,9 - 1,7				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

10 0	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Interme	ediate rate	speed 6	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9		rque control Control rod travel mm
ca.46	1120 1160	10,4 7,2	with	nout a	uxilia	ca.24 y	375	6,5	1100	0
	1220 1140	2,7 10,0-10,6	spr	ing ı auxi	liany		150 375 450	19 - 21 6,2-6,8 3,1-4,7	900	0,6-0,8
28	1200 1300	4,4- 5,4 0,3- 1			1 101 y		600	0 - 1	450	1,4-1,7

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2)	li-load stop	Rotational- speed limitat		iel delivery iaracteristics	Starting f	uel delivery 5	da Idle stop		
Test oil to	cm ³ /1000 strokes	Note changed to) rev/min	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm=/1000 strokes 7	rev/min 8	travel mm 9	
1100	60,5 - 62,5	1140-1155*	600 500	71,5 ² 75,5 max. 74,0	100	12,7-13,3	375	11,5- 17,5	
			1200	6,5-14,5					

Checking values in brackets

* 1 mm less control rod travel than col 2

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VDT-WPP 001/4

3. Edition

Eπ

PE 12 A 85 C 610 RS 2141

EP/RSV 200-1100 A 1 B 207,253 D RQV 250/620- 775 AB 642 L 250/875-1075

supersed€\$9.64, 6.67 company Torpedo-Jugoslawien engine T 509

1-9-4-11-2-7-6-10-3-8-5-12-1

0-15-60-75-120-135-180-195-240-255-300-315-360°
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm3/100 strokes	cm³/ 100 strokes 4	mm 2	cm ^{\$} /100 strokes 3	mm 6
1000	9	6,5 - 7,0	0,4	7~ 7 7		
	6 15	2,3 - 3,1 14,0 - 14,8				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

estoil-ISO 41

..B 207

	r rated speed Control rod travel mm		Interme 4	diate rati	ed speed	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	rque control Control rod travel mm
ca.60°	1100 1150 1180	16,0 11,0 6,4	with spri		uxilia	ca.24	200 100 200	6,0 19 - 21 5,7-6,3	1080 400 250	0 0 1,2-1,8
29	1170 1200 1300	6,0-9,5 2,8-6,0 0,3-1,0	with spri		liary		300 450	2,2-4,1		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

6	II-load stop	Rotational- speed limitat		el delivery aracteristics	Starting fi	uel delivery 5	3	stop Control rod
rev/min	mp 40°C (104°F) cm³/1000 sti√xes 2	changed to) rev/min 3	rev/min	cm#1000 strokes 5	rev/min	cm ³ /1000 strokes 7		travel mm 9
i .	mm RW out adjustment	1120 on engine				j		
	,							./.

Checking values in brackets

* 1 mm less control rod travel than col 2

11.75

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung £ 1980 by Robert Bosch GmbH. Postfach 50. 0-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en Republique Federale d'Allemagne par Robert Bosch GmbH.

	travel	rev/min Control rod travel mm rev/min	Intermed	tiate rated	speed	Control- lever deflection in degrees 7	- Lowe rev/min 8	rated speed Control rod travel mm 9	11 0 /	rque control Control rod travel mm
ca.61	1100	16,0				ca.25	200	6,0	1080	0
	1150 1190	11,6 6,6		without auxilial spring			100 200	19 - 21 5,7-6,3	800	0,3-0,5
29	1180 1220 1340	5,2-9,5 2,8-4,9 0,3-1,0	with spri	auxil ng	iary		350 540	2,6-4,3 0 - 1	500	0,6-0,8

C. Settings for Fuel Injection Pump with Fitted Governor

ピツ	il-load stop	6 Rotational- speed limitat.	11.33	el delivery aracteristics	Starting f	uel delivery 5	(4a) Idle stop	
Test oil to rev/min	omp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	travel mm 9
1000	86,0 - 88,0	1020	700 500	83,0 - 87,0 81,5 - 84,5				

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Interm	ed:ate rat	ed speed	Control- lever deflection in degrees 7	Lowe rev/min 8	rated speed Control rod travel mm	rev/min	rque control Control rod travel mm
29										

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load st Test oil temp. 40° rev/min cm³/100	C (104°F)	Rotational- speed limitat. Note: changed to) rev/min	Ch.	el delivery aracteristics cm ³ /1000 strokes 5	Starting fildle rev/min 6	uel delivery 5 cm³/1000 strokes 7	rev/min	e stop Control rod travel mm 9
1 2								·

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Gove	ernor	Setting	g S				RQV	250/	620-775	AB 642	Ppe Z1
Upper rated s	peed			Intermediate	rated spe	ed	Lower rated	speed		Sliding sleeve travel	
Degree of deflection of control lever	1	Control rod travel mm rev/min		Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm
ca.68	775 790 810 835	3 12,0-15 6,4-12 0 - 7 0	,8 2,0 7,0	ca.48	580 620 650 690	9,5-12,5 6,4-12,5 2,8- 7,5	1	200 250 330 550 670	6,8-8,0 4,9-7,1 3,6-4,0 3,6-4,0		
							(3a)				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem	stop	(°F) 2 Ilmitation intermediate speed		ery characteristics 5a peed 5b	Starting to the switchi		Torque- travel	Control rod
rev/min	cm ⁴ 1000 strokes	rev/min 4a)	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm3/1000 strokes 7	rev/min 8	mm 9
ca.10	mmRW	790						
						I		
							<u></u>	

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

RQV 250/875-1075 AB 642

Upper rated :	speed			Intermediale	rated spe	ed		Lower rated	speed		Sliding s	leeve travel
Degree of deflection of control	rev/min Control rod travel		(1a) (2a)	Degree of deflection of control lever		Control rod travel		Degree of deflection of control lever	rev/min	Control rod travel	rev/min	mm (1)
lever	mm	rev/min	(a)	4	5	6		7	8	9	10	11
ca.68	1075 1100 1130 1170	0 - 1		ca.52	850 900 950 1000	13,5-16 9,5-14 4,0-9 0	, 5		180 330 800 980	6,8-8,2 3,6-4,0 3,6-4,0 0	350-	1,9-2,1

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem	stop p 40°C (104°F) 2	Rotational-speed (2b) Ilimitation Intermediate speed (4a)			SWITCHIE	ig point	Torque- travel	Control 5 Control rod travel
rev/min 1	cm³/1000 strokes 2	rev/min 3	rev/min 4	cm ⁹ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	8	9
ca.10	mm RW	1105-1115*						
								:
l								

Checking values in brackets

* 1 mm less control rod travel than col 2

40

WPP 001/4
1. Edition

<u>En</u>

PE 8 A 80 D 320 RS2394

EP/RSV 300-900 A4 B625 DR 300-750 A7 B625 DR 300-750 A5 B796 R

supersedes company

engine

1 - 8 - 5 - 4 - 7 - 2 - 3 - 6 0 -45 -90 -135-180-225-270-315°

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2,10-2,30)

mm (from BDC)

Rotational speed	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes	cm³/ 100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6
1000	9	4,6 - 5,0	0,4			
	6	2,0 - 2,8				
200	6	1,0 - 0,7				
	,					<u> </u>

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

300-900 A4B625DR

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rcd travel mm rev/min 3				Control- lever deflection in degrees 7	Lower rev/min 8	1(3)	rque control Control rod travel mm	
ca.52	900 940 970	16,0 11,0 6,0	with spri		uxilia	ca.24 ŷ	300 100 300	6,0 19 - 21 5,7-6,3	880 350	0 1,3-1,5
29	940 1000 1100	ca. 10,6 ca. 4,0 0,3-1,0	with spri		iliary		450 600	0,7-3,3 0 - 1	330	1,0-1,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	II-load stop emp. 40°C (104°F)	Rotational- speed limitat Note changed to)			Starting fuel delivery 5		(da) Idle stop	
rev/min	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes		mm 9
1	2	3	4	5	6	/	0	
ca.10 Carry	mm RW out adjustment	910 on engine						

Checking values in brackets

* 1 mm less control rod travel than col 2

8.77

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B. Governor Settings

	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	intermed	diate rated	speed 6	Control- lever deflection in degrees 7	rev/min	rated speed Control rod travel mm 9	rev/min	rque control Control rod travel mm
ca.45	750 775 800	16,0 11,3 5,9	*			ca.22	300 100 300	6,0 19 - 21 5,7-6,3	750	0
29	780 850 950	8,6-11,6 1,9- 3,7 0,3- 1,0	**				450 550	0,3-3,0	400	0,3-0,5

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	ill-load stop	6 Rotational-	Rotational- speed limitat			ual delivery 5	4a) Idk	stop
Test oil temp. 40°C (104°F) rev/min cm³/1000 strokes 1		Note: changed to) rev/min	rev/min	cm³/1000 strokes	rev/min 6	cm³/1000 strokes 7	rev/min	Control rod travel mm 9
ca.	10 mm RW	760						

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

300-750 A5B796R

Degree of deflection	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	interm	ediate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	! (0)	rque control Control rod travel mm
ca.35	750 800 825	16,0 11,0 8,0		ithout pring	auxil	ca.18 iary	300 190 300	6,0 19 - 21 5,7-6,3	750	0
29	750 825 975	ca. 10,5 ca. 5,3 0,3-1,0	ı	ith aux pring	aliar	,	400 530	2,4-4,0	375	1,2 - 1,8

C. Settings for Fuel Injection Pump with Fitted Governor

	ii-load stop	Flotational- speed limitat.		el delivery aracteristics	Starting f	uel delivery 5	4a Idle stop		
1	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7		travel mm 9	
ca.	10 mm RW	760							
***	Carry out adjus	tment on eng	ine						

Checking values in brackets

* 1 mm less control rod travel than col. 2

WPP 001/4

1. Edition

PES 3 A 75 D 310 RS1215

EP/RSV 250-900 A7 B719DL (1)

supersedes

PES 4 A 75 D 410 RS1215

EP/RSV 250-900 A7 D719DL (2)

company engine

Steyr WD 308 s (1) WD 408 s (2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,45 + 0,1

mm (from BDC)

Rotational speed	Control rod	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes 3	cm³/ 100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6
1000	9	3,9 - 4,2	0,4			
	6	1,4 - 2,0				
200	9	1,8 - 2,4				

Adjust the fuel delivery from each outlet according to the values in E

B. Governor Settings

14 4 3	r rated speed Control rod travel mm		Intermed	liate rated		Control- lever deflection in degrees 7		rated speed Control rod travel mm	1 3 /	rque control Control rod travel mm
ca.60	900 950 980	16,0 10,0 5,2	l' 15			ca.25 y	250 100 250	6,0 19,0-21,0 5,7- 6,3 1,3- 3,7 0 - 1,0		0 0,1-0,3 0,2-0,4
29	1000	8,4-11,0 3,1- 5,1 0,3- 1,0					400 550			

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) FL	ull-load stop	Rotational- speed limitat		iel delivery paracteristics	Starting f	uel delivery 5	4a Idle stop	
Test oil to rev/min 1	emp 40°C (104°F) cm³/1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9
(1) 900	61,0 - 63,0	930-940*			100	16,0-16,6		

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 4113

B. Governor Settings

	r rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever deflection in degrees 7	rev/min	rated spee© Control #3d travel mm 9	3 To rev/min 10	rque control Control rod travel mm
ca.60	900 950 980	16,0 10,0 5,2	with spri	out au ng	xilia	ca.25 y	250 100 250	6,0 19,0-21,0 5,7- 6,3		0 0,1-0,3 0,2-0,4
29	950 1000 1070	8,4-11,0 3,1- 5,1 0,3- 1,0	-				400 550	1,3- 3,7 0 - 1,0		

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load stop Test oil temp. 40°C (104°F)		6 Rotational- speed limitat		uel delivery naracteristics	Starting fidle	uel delivery 5	Idle stop	
Test oil to rev/min 1	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min travel mm 9	mm
(2) 900	58,0-60,0	930-940*			100	16,0-16,6		

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

	Control rod travel mm	rev/min Control rod travel mm rev/min	Intermed	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	rque control Control rod travel mm
20						\	,		

C. Settings for Fuel Injection Pump with Fitted Governor

IIHoad stop emp. 40°C (104°F) cm ⁹ /1000 strokes	Rotational- speed limital. Note: changed to) rev/min	el delivery aracteristics cm³/1000 strokes	Starting f Idle rev/min 6	cm ³ /1000 strokes	e stop Control rod travel mm

Checking values in brackets En

* 1 mm less control rod travel than col. 2

WPP 001/4 1. Edition

PES 6 A 95 D 420 LS3024

EP/RSV 375-1100 A2 B799DR

supersedes

company

Pay attention to special setting as per W 400/307 for Case CO. $!_{\text{engine}}$

Case A 504 BDT

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,0 + 0,1

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm³/100 strokes 3	100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
1000	9	8,4 - 9,0	0,4			
	6 15	4,0- 5,0 16,5-17,8				
200	6	1,5- 2,6				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	rated speed Control rod travel mm		intermed	diate rated	speed	Control- lever deflection in degrees 7	rev/min	rated speed Control rod travel mm 9	1 3 1	que control Control rod travel mm
ca.43	1120 1160 1190	9,5 5,0 2,0		without auxiliar spring			375 150 375	5,7 19 - 21 5,4-6,0	1100	0
28	1140 1200 1260	9,2-9,8 2,6-4,0 0 - 1		with auxiliary spring			450 550	2,0-3,5	500	0,1-0,4

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	6 Rotational- speed limitat		iel delivery paracteristics	Starting for	uel delivery 5	(4a) Idi	e stop Control roc
Test oil te rev/min 1	emp. 40°C (104°F) cm3/1000 strokes 2	Note changed to 1 rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm#1000 strakes 7	rev/min mm 8 9	ww
1100	94,5-96,5	1140-1150*	800 700	94,0-97,0 max. 96,0	100 375 1200	134-144 18- 22 15- 23		

Checking values in brackets

* 1 mm less control rod travel than col 2

6.79

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VDT-WPP 001/4

7. Edition

En

PES 4 A 85 C 420 LS 2263 .. D ... LS 2459 EP/RSV 375-1100 A 2 B 579DR A 2 B 649DR supersedes 16.9.70,17.2.71
Case 29.4.71
A301 BD 15.2.72
engine 20.7.72

Test with case overflow valve!
Pay attention to special governor setting!

20.7.72 24.11.72

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fael Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Rotational speed	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/m:n	mm 2	cm ³ /100 strokes 3	cm³/ 100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
1000	9	4,1 - 4,5	0,4			_
	6 12	1,1 - 1,9 7,2 - 8,0				
200	6	0,9 - 1,7				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

Degree of deflection of control lever	r rated speed Control rod travel mm	rey/min Control rod travel mm rev/min 3	Interm	ediate rated	speed	Control- lever deflection in degrees 7	Lowe rev/min 8	r rated speed Control rod travel mm 9	16 5 7	rque control Control rod travel mm
ca.43	1120 1160 1210 1140	11,4 7,4 2,2 11,2-11,8		without spring			375 150 375 450	7,2 19 - 21 6,9-7,5 3,6-5,2	1100 900 500	0 0,3-0,5 0,4-0,7
29	1200	4,5- 5,8 0,3- 1	1	with au spring		l y	600	U - I		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	li-load stop	Rotational- speed limitat		el delivery aracteristics	Starting fi	uel delivery 5	I Control rod	
Test oil te rev/min	cm ³ /1000 strokes	Note changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min	cm ¹ /1000 strokes 7	rev/min 8	travel mm 9
1100	73,5 - 75,5	1140-1155*	750 650	75,5-78,5 max. 77,0	100	12,7-13,8	100	15,5- 19,5
			1200	6,5-14,5				

Checking values in brackets

* 1 mm less control rod travel than col 2

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40

3. Edition

En

PES 6 A 90 D 420 LS2354 LS2461 EP/RSV 375-1050A2B 723 DR

supersed∈s

company engine Case A 451 BDT

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 411

2,15 + 0,1

mm (from BDC

Rotational	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)	
rev/min 1	mm 2	cm³/100 strokes	cm ³ / 100 strokes 4	mm 2	cm ⁹ 100 strokes 3	mm 6	
1000	9	4,6 - 5,1	0,5				
200	6 12 9	1,1 - 2,0 8,4 - 9,4 2,7 - 3,6					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Interme	diate rated	d speed	Controt- lever deflection in degrees 7	Lowe rev/min 8	r rated speed Control rod travel mm 9	3 To	rque control Control rod travel mm
ca.40	1070 1100 1140	13,5 9,8 3,4	wit spr		uxilia	ca.17 ry	375 150 375	7,1 19 - 21 6,8-7,4	1050	0,2-0,5
29	1090 1150 1220	13,2-13,8 4 - 6 0,3-1,0	wit spr		liary		410 560	2,0-4,2 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b Ft	ill-load stop	6 Rotational- speed limitat		el delivery aracteristics	Starting fi	uel delivery 5	4a Idle stop	
Test oil to	emp. 40°C (104°F) cm³/1000 strokes	104°F) Note: changed to)		cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7		travel mm
1050	111,5-114,5 110,5-115,5	1090-1105*	800 700	114,0-118,0 113,0-119,0 max. 117,0	100	13,5-14,5	375 cm³/1	15,25- 19,25 000 H

Checking values in brackets

* 1 mm less control rod travel than col. 2

3.76

BOSCH

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VDT-WPP 001/4

2. Edition

PE 4 A 90 D 321 RS 2444 PE 6 A 90 D 321 RS 2432

EP/RSV 325-1500 A5 B642DR EP/RSV 325-1500 A5 B642DR supersedes company

9.75 Baudouin

1 - 4 - 2 - 3 0 -45 -135-270° 1 - 4 - 3 - 6 - 5 - 2 0 - 75-120-195-240-315°

entaine

DF 4, DF 6

Test with "B-lines"

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

estoil-ISO 4113

2.15 - 2.25

mm (from BDC)

Rotational	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes	cm ³ / 100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
1000	9	3,1 - 3,5	0,4			
	6 12	0,5 - 1,2 5,6 - 6,5				
200	9	0,7 - 1,5				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

EP/RSV .. 642 DR

	r rated speed		interm	ediate rat	ed speed	(Lower rated speed			Torque control Control rod		
Degree of deflection of control	Control rod Control rod travel travel mm rev/min					Control- lever deflection	rev/min	travel	rev/min	travel mm		
lever 1	2	3	4	5	6	in degrees 7	8	9	10	11		
ca.67	1440	16,0				ca.24	325	8,7	1300	0		
	1520 1590	10,0 3,6		hout a	auxilia	ty	150 325	19 - 21 8,4-9,0	300	0,8-1,0		
29	1300 1550 1630	ca. 10,3 6,2-7,6 0,3-1,0		h aux ing	iliary		450 600	2,7-4,9	300	0,01,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

6	ill-load stop	6 Rotational- speed limitat	3a Fuel delivery characteristics		Starting f	uel delivery 5	(4a) Idle stop	
Test oil to rev/min 1	emp 40°C (104°F) cm³/1000 strokes 2	Note changed to .) rev/min	rev/min	cm³/1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	travel mm
(4 1300	6 Zyl.) 54,5-56,5	1520-1530*	1540- 3 mm	1550 = RW less	325	8,25-14,25	325	8,7

Checking values in brackets

* 1 mm less control rod travel than col. 2

1.78

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WPP 001/4

1. Edition

En

PES 4 A 85 D 210 RS 1286

EP/RSV 300-1150 A 2 B 708 D

supersed∈s company

3.74 Brown, England

engine

45 500 31

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,7 - 2,8

mm (from BDC) (2,65-2,85)

Rotational	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
speed rev/min	mm 2	cm ³ /100 strokes 3	cm³/ 100 strokës 4	mm 2	cm ⁹ /100 strokes 3	mm 6
800	9,8	6,0 - 6,2	0,3(0,45)	·		
300	(+0,1) 7,0 (<u>+</u> 0,1)	0,9 - 1,7	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

Degree of deflection of control lever	r rated speed Control rod travel mm		Interme	ediate rat	ed speed	Control- lever deflection in degrees 7	rev/min 8	r rated speed Control rod travel mm	11 9 1	rque control Control rod travel mm
ca.45	1150 1210 1270	16,0 11,2 5,0	wit spr		auxilia	ca.18 ry	300 100 300	7,0 19 - 21 6,9-7,1	1130 350	0
ca .43	1150 1230 1320	ca. 9,8 ca. 4,0 0,3-1,0					380 480	1,8-4,0 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	Rotational- speed limitat		et delivery aracteristics	Starting for	uel delivery 5	(d)	Stop Control rod travel
rev/min	cm³/1000 strokes	changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min 8	mm 9
800	61,0-62,0 (59,0-64,0)	1190-1200* (1185-1205)			100	114,5-124,5 111,5-127,5)	300	7,0

Checking values in brackets

* 1 mm less control rod travel than col 2

1.76

40

VDT-WPP 001/4

8. Edition

En

PES 4 A 85 C 420 LS 2263 D 420 LS 2459 EP/RSV 300-1000 A 2 B 547 DR 375-1000

supersedes company

engine

19.4.72 C a s e A301 BD

Test with case overflow valve!

Pay attention to special governor setting!

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 + 0,1

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ^{3/} 100 strokes 4	Control rod travel mm 2	Fuel delivery cm\$100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,1 - 4,5	0,4			
200	6 12 6	1,1 - 1,9 7,2 - 8,0 0,9 - 1,7				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

10 1 3	r rated speed Control rod travel mm		Interme	ediate rat	ed speed	Control- lever deflection in degrees	rev/min	r rated speed Control rod travel mm	rev/min	que control Control rod travel mm
ca.39	1020 1060 1110	11,4 7,2 2,0	with spri		uxilia:	ca.21	375 150	7,5	1000	0
29	1040 1100 1200	11,0-11,6 3,6- 4,9 0,3- 1	with spri		iliary		375 450 600	7,2-7,8 3,6-5,4 0 - 1	400 400	0,8-1,0 1,5-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	ill-load stop	Rotational- speed limitat		iel delivery paracteristics	Starting f				
Test oil te	emp. 40°C (104°F) cm\$/1000 strokes	Note. changed to) rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm4/1000 strakes	rev/min	Control rod travel mm	
1	2	3	4	5	6	/	0	19	
1100	69,5-71,5	1040-1055*	600 500 1090	84,0-88,0 max. 86,5 9,5- 17,5	100	12,7-13,3	375	15,5- 19,5	

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

WPP 001/4

1. Edition

PES 6 A 95 D 410 RS2479

EP/RSV 600-1100 A2B771L,774L EP/RSV 400-1100 A7B772L RS2500 EP/RSV 400-1200 A2B773DL

supersedes

company engine

John Deere 6404 T

Test-pressure line 6 x 2 x 600 Inlet pressure 1.5 bar

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9+0,1(-0,05)

mm (from BDC)

Rotational speed rev/min	Control rod travel	Fuel delivery cm³/100 strokes 3	Difference cm ^{3/} 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ⁹ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	7,5 - 8,0	0,4			
	6	3,2 - 4,2				
200	6	0,5 - 1,4				
	Por	t closing mark	14° after	port clos	ing cylinder 1	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

600-1100 A2B771 L

Degree of deflection of control lever	r rated speed Control rod travel mm 2		Intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	11 3 1	rque control Control rod travel mm
ca.40	1100 1150 1170	9,2 6,0 3,6	with spr	nout a	uxilia	ca.23 ry	600 200 600	5,1 19 - 21 4,8-5,4	1080 400	0,7-1,3
29	1100 1170 1270	ca. 9,2 4,6-5,6 0,3-1,0	with spr	n auxi ing	liary		700 800	1,8-3,2 0 - 1	400	0,7-1,3

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	II-load stop	6 Rotational- speed limitat	38 Fu	el delivery aracteristics	Starting for			
1	emp 40°C (104°F) cm ³ /1000 strokes	Note changed to) rev/min	rev/min	cm ³ /1000 strokes 5	rev/min	cm ^{-/} /1000 strokes 7	rev/min	Control rod travel rmm 9
1100	85,5 - 87,5	1140-1150* (1135-1155)			100 600 1175	159,0- 179,0 12 - 16 21 - 27	600	5,1
(incr	ease by ± 2,0 c	m³!)						

Criecking values in brackets

* 1 mm less control rod travel than col. 2

9.76

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400-1100 A7B772L

Degree of deflection of control lever	ection mm mm rev/min						r rated speed Control rod travel mm 9	rev/min	rque control Centrol rod travel mm	
ca.70	1100 1120 1140	11,0 7,5 4,0	*			ca.29	400 150	6,0 19 - 21 5,7-6,3		
29	1100 1150 1240	10,0-12,0 3,5- 5,5 0,3- 1,0	**				400 500 630	2,0-4,0		

C. Settings for Fuel Injection Pump with Fitted Governor

	II-load stop emp. 40°C (104°F)	Rotational- speed limitat.	Fuel delivery characteristics		Starting for	uel delivery.	Icile stop Control rod	
rev/min	cm³/1000 strokes	changed to)	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	mm 9
1080	85,5 - 87,5	1110-1120*			100	159 - 179	400	6,0
		(1105-1125)	Ì		400	12 - 16		
⊌ð					1150	14 - 20		
(inc	rease by ± 2,0	m ³ !)						

Checking values in brackets

Testoil-ISO 411

* 1 mm less control rod travel than col. 2

B. Governor Settings

400-1200 A2B773DL

11 1	rated speed Control rod travel mm		Interme	diate rated	speed 6	Control- lever deflection in degrees 7		rated speed Control rod travel mm 9	11 0 1	rque control Control rod travel mm
ca.47	1200 1280 1320	16,0 9,1 . 5,0	*	withou spring		ca.19 iliary	400 200 400	5,8 19 - 21 5,5-6,1	1200	0
ca .45	1200 1270 1400	ca. 9,6 ca. 5,1 0,3-1,0	**	with a spring		ary	500 750	3,6-4,1 0 - 1	600	0,5-0,7

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop emp. 40°C (104°F)	Rotational- speed limitat.		Fuel delivery characteristics		uel delivery 5		e stop Control rod
rev/min	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	mm 9
1200	85,5 - 87,5	1240-1250* (1235-1255	800	92,0-95,0	100 400 1295	159 - 179 12 - 16 21 - 27		5,8

Checking values in brackets En

B. Governor Settings

600-1100 A2B774L

(1) Uppe	r rated speed	rev/rnin	Interme	diate rated	speed	(4)	- Lower	Torque control			
Degree of deflection	Control rod travel	Co itrol rod travel	1			Control-		Control rod travel		travel	
of centrol lever	mm	mm rev/min				deflection in degrees	rev/min	mm 9	rev/min 10	mm 11	
1	2	3	4	5	<u> 6</u>	<u> </u>	8		1.0	· · ·	
ca.40	1100	9,2]			ca.23	600	5,1	1080	0	
	1150 1170	6,0 3,6	•	without auxilian spring			200 600	19 - 21 4,8-5,4	400	0,7-1,0	
	1100	ca.9,2					700 800	1,8-3,2			
29	1170 1270	4,6-5,6 0,3-1,0					000			(

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp. 40°C (104°F)	Rotational- speed limitat.		el dalivery aracteristics			idle stop Control rod travel	
rev/min	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	mm 9
1100	79,5-81,5	1140-1150* (1135-1155)			100 600 1175	159-179 12- 16 21- 27	600	5,1
(inc	ease by ± 2,0 c	m³!)						

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

Degree of deflection of control lever	control mm mm rev/min			ediate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	11 4 1	rque control Control rod travel mm 11
20										

C. Settings for Fuel Injection Pump with Fitted Governor

	li-load stop	6 Rotational- speed limitat.		nel delivery naracteristics	Starting fuel delivery 5 da Idle stop			
ł	emp. 40°C (104°F) cm³/1000 strokes	Note: changed to) rev/min	rev/min	cm ³ /1 000 strokes	rev/min	cm³/1000 strokes 7		travel mm 9
<u> </u>	-							·

Checking values in brackets En

WPP 001/4

4. Edition

PES 6 A 90 D 410 LS2355 PES 12A 90 D 610 LS2360

EP/RSV 250-1250 A18623L

supersedes

3.74

PES 8 A 90 D 410 LS2373 PES 10A 90 D 610 LS2374

EP/RSV 250-750 A7 B623L

company engine

Motori VM

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing difference between control-rod travel 9 and 21 6,5-7,5°

Port closing at prestroke 3,3+0,1 RW9

Testoil-ISO 4113

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes	cm3/ 100 strokes 4	mm 2	cm%100 strokes 3	mm 6
1000	9	5,0 - 5,5	0,4			
	6	1,6 - 2,6				
200	9 .	1,7 - 2,9				

Appast the fuel delivery from each outlet according to the values in [

B. Governor Settings

250-1250

	r rated speed		Intermediate rated speed			4 Control-	Lowe	r rated speed Control rod	3 10	rque control Control rod
Degree of deffection of control iever	travel mm	travel mm rev/min	ļ 	le de - in		lever deflection in degrees	rev/min	travel mm	rev/min	travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.69		16,0	145 to	nout 2		ca.26	250	5,5	1230	0
	1290 1330	11,8 6,6	spr		uxilia	y	100	19 -21	400	0
29	1330 1350 1450	9,2-11,6 2,6- 5,8 0,3- 1,0	with auxiliary spring				250 350 450	5,7-6,3 0,5-3,0 0 - 1	290	1,2-1,8

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	II-load stop	6 Rotational- speed limitat		iel delivery paracteristics				e stop
Test oil te rev/min 1	emp 40°C (104°F) cm ³ /1000 strokes 2	Note. changed to .) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min	cm-/1000 strokes	rev/min 8	Control rod travel mm
ca.10	mm RW	1270						
Carry	out adjustment	on engine						
								İ

Checking values in brackets

* 1 mm less control rod travel than col. 2

9.79

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B. Governor Settings

250-750

Connec ni	rated speed Control rod travel mm				Control- lever defisction in degrees 7	ntrol- Control travel		11 0 1	rque control Control rod travel mm	
ca .47	750 780 810	16,0 11,6 5,4	with spr	nout au	si lixu	ca.22 ry	250	5,5 19 - 21 5,7-6,3	730 400	0 0
②	800 850 920	5,0-9,0 1,4-3,0 0,3-1,0	with	n auxi ing	liary		350 420	0,5-3,0	300	1,2 = 1,8,

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	il-load stop	Rotational- speed limitat. 39 Fuel delivery characteristics			Starting fuel delivery (5) (4) Idle sto			
rev/min cm³/1000 strokes 2		Note: changed to) rev/min	rev/min	cm²/1000 strokes 5	rev/min 6	cm³/1000 strokes 7	i	Control rod travel mm 9
ca.	10 mm RW	760						
- Ca	rry out adjustm	ent on engi	е					

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rad travel than col. 2

B. Governor Settings

Degree of deflection of control lever	ection mm mm rev/min			diate rated	speed 6	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	rque control Control rod travel mm 11
23									

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop		speed limitat. Characteristics			Starting fuel delivery 5 4a Idle stop			
Test oil to	cm ³ /1000 strokes	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes 7		travel mm 9	

Checking values in brackets En

VDT-WPP 001/4

3. Edition

supersedes

RE 4 A 90 D 321 RS 2375

PE 6 A 90 D 321 RS 2390

1-4-2-3 0 -45-135-270°

EP/RSV 250-1500 A5 B642DR EP/RSV 325-1500 A5 B642DR 1-4-3-6-5-2

Testing with T nozzles and fuel lines 6 x 2 x 600 !

0 - 75-120-195-240-315°

Baudouin company DA 4 (4 Cyl.) engine DF 6 (6 Cyl.)

9.75

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Jesters

2,15 + 0,1

A. Fuel Injection Pump Settings

Port closing at prestroka

mm (from BDC)

Rotational speed	Control rod travél	Fuel delivery		Centrol red Insvei		Spring pre-famisioning thorque-control valve)
1	mm 2	cm³/100 strokes 3	cm ³⁴ 100 strakes 4	ecm 2	cm [®] 100 strokes 3	mm 6
1000	9	4,6 - 5,1	0,4			
	6 12	2,3 - 3,3 7,0 - 8,0				en Control Con
200	9	2,4 - 3,4				

Adjust the fuel delivery from each outlet according to the values as

B. Governor Settings

250-1500

+ PE 4 A ..

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Intermed	trate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	11 3 1	rque control Control rod travel mm
ca.65	1500 1550 1580 1550 1600 1720	16,0 10,3 7,0 11,4-13,4 4,3- 6,6 0,3- 1,0	spri	auxi1		са.19 У	275 100 275 400 500	7,0 19 - 21 5,7-7,3 0 -2,8 0 - 1	1480 300	0 0,8-1,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

9	ult-load stop emp 40°C (104°F)	Rotational- speed limitat		iel delivery paracteristics	Starting t	uel delivery 5	Idle stop	
rev/min	cm³/1000 strokes	changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ¹ /1000 strokes 7		travel mm 9
1400	62,0 - 64,0	1540-1550					275	0

Checking values in brackets

* 1 mm less control rod travel than col. 2

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B. Governor Settings

326-1500 + PE 6 A

14 1 2	deflection of control mm mm rev/min		intermed				Lower rated speed			rque control Control rod travel mm
ca.65	1500 1550 1620	16,0 10,7 2,0	with spri	out au	ıxilia	ca.20 ry	325 150 325	8,7 19 - 21 8,4-9,0	1480	
29	1500 1570 1700	ca.10,3 ca. 4,0 0,3-1,0	with spri	auxil ing	liary		450 600	1,2-4,5 0 - 1	300	0,8-1,0

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop		speed limitat. Characteristics			uel delivery 5	4a idle stop		
rev/min cm³/106 trokes 1 2		Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes 7		travei mm 9	
1400	62,0 - 64,0	1530-1540					325 cm ³ /1	10,25- 14,25 000	

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	rque control Control rod travel mm 11
29									

C. Settings for Fuel Injection Pump with Fitted Governor

	ll-load stop emp. 40°C (104°F)	Rotational- speed limitat		nel delivery naracteristics	Starting t	ruel delivery 5	Idle stop . Control rot travel		
rev/min	cm ³ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	mm 9	
			İ						
ļ 1						<u> </u>			

Checking values in brackets En

VDT-WPP 001/4 2. Edition

En

PES 6 A 85 C 420 LS 2264

EP/RSV 375-1050 A & B 667 D

supersedes

1.12.72

.. D .. LS 2460

company -angine

Case A 451 BD

lest with case overflow valve!

Pay attention to special governor setting!

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2.15 + 0.1

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes 3	cm³/ 100 strokes 4	mm 2	cm ⁹ /100 strokes	mm 6
1000	9	4,1 - 4,5	0,4			
	6 12	1,1 - 1,9 7,2 - 8,0				
200 ·	ő .	0,9 - \$,7				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

Degree of deflection of control lever	r rated speed Control rod travel mm 2		Interme	diate rate	d speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	3 To	rque control Control rod travel mm
ca.45	1070 1120 1170	10,7 6,4 2,6	with spri		uxilia	ca.22 ry	375 150	6,7 19 - 21	1050 800	0 0,7 - 0,9
29	1090 1150 1260	10,2-10,8 4,6- 5,4 0,3- 1	with spri	auxi ng	liary		375 450 580	6,4-7,0 3,2-4,7 0 - 1	500	0,7 - 0,9 1,0 - 1,3

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	Speed limitat		uel delivery paracteristics	Starting lidle	fuel delivery 5	4a Idle stop		
Test oil to rev/min 1	cm ⁹ /1000 strokes	Note. changed to) rev/min 3	rev/min 4	cm ² /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min	Control rod travel mm	
1050	67,5 - 69,5	1090-1105*	650 550	76,5-80,5 max. 79,0	100	12,7-13,3	375	12,5- 16,5	
			1150	6,5-14,5					

Checking values in brackets

* 1 mm less control rod travel than col 2

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8.74

WPP 001/4 1. Edition

PES 6 A 95 D 410 RS2479

EP/RSV 400-1100 A2B768DL 400-1100 A2B769DL

supersedes

company John Deere

Testing with T nozzles and fuel lines $6 \times 2 \times 600!$

engine 6404 T

Inlet pressure 1.5 bar

Manifold-pressure compensator (LDA) adjustment page 2
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 1,9+0,1 (+0,15) mm

Port closing mark cyl.

				1	K Cy1. 1 . 14	after port clo
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes	cm³/ 100 strokes	mm	cm [®] 100 strokes	mm
1	2	3	4	2	3	6
1000	9	7,5 - 8,0	0,4			
	6	3,2 - 4,2				
200	6	0,5 - 1,4				

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

estoil-ISO 4113

400-1100 A2B768DL

Degree of deflection of control lever	r rated speed Control rod travel mm		Interme			Control- lever deflection in degrees 7	Lower rev/min 8			rque control Control rad travel mm
ca.44	1100 1180 1220	16,0 9,8 6,0		without auxiliar spring			400 200 400	5,6 19 - 21 5,3-5,9	1080	0
29	1100 1200 1330	ca.9,5 ca.4,7 0,3-1,0	with sprin	auxil ng	iary		500 720	3,2-4,3 0 - 1	450	0,7-1,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	ill-load stop	Rotational-speed limitat Reference Speed limitat Reference Speed limitat			Starting f	uel delivery (5)	(4a) Idle stop		
Test oil te rev/min 1	emp 40°C (104°F) cm³/1000 strokes 2	Note. changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm=/1000 strokes 7	rev/min 8	Control rod travel mm 9	
LDA 1100	0,7 bar 85,5-78,5	1140-1150*	LDA 750	0,7 bar 95,0-98,0	100 400 1200	159 - 179 12 - 16 19 - 29	100	5,6	
Incre	ase by ± 2,0 cm	3 <u>!</u>							

Checking values in brackets

9.76

^{* 1} mm less control rod travel than col. 2

The numbers denote the sequence of the tests

B. Governor Settings

400-1100 A2B769DL

Degree of deflection of control lever	crated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Interme	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	rev/min	rque control Control rod travel mm 11
ca.44	1100 1180 1220	16,0 9,8 6,0		without auxiliar spring			400 200	5,6 19 - 21	1080 450	0 0,7-1,0
ca.43	1100 1200 1330	ca.9,5 ca.4,7. 0,3-1,0		with auxiliary spring			400 500 720	5,3-5,9 3,3-4,4 0 - 1		

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Ft	ull-load stop	6 Rotational- speed limitat.		el delivery aracteristics	Starting t	fuel delivery 5	(4a) Idle stop	
rev/min cm³/1000 strokes 1 2		Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm
LDA 1100	0,7 bar 87,5-89,5	1140-1150* (1135-1155)		0,7 bar 97,0~\@G,0	100 400 1200	159 - 179 12 - 16 19 - 29	100	5,6

Checking values in brackets

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

Festoil-ISO 4113

550

Pre-setting
Dimension # = 21,8mm

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
2479 with 768DL and 769DL	0,45	0,14 - 0,16	- 0,1 - 0,2 - 1,5 - 1,7
Switching point (hydr. measurement)	max. 0,76	mind. 0,48	9 - 11 mm RW 19 - 21 mm RW

Notes:

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

En

^{* 1} mm less control rod travel than col. 2

VDT-WPP 001/4

4. Edition

PE 6 A 80 C 321 RS 2113 .. D ..

EP/RSV 200-1250 A1B421 D, 440D EP/RSV 250-750 A7B 468

supersedes.

company

Saviem 130 H

Testing with "B" leads

engine Z 6 P

All test specifications are valid for Bosch Fuel Injection Pump Ton Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15 + 0,1

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm3/100 strokes	cm³/ 100 strokes	mm	cm³/100 strokes	mm
1	2	3	4	2	3	6
1000	9	5,5 - 6,0	0,4			
	6 15	2,2 - 3,0 11,5 -12,8				
200	6	1,3 - 2,2				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

estoil-iSO 41

..B 421 D,

(1) Uppe	r rated speed		Intermed	diate rated	speed	Lower rated speed 3				rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	1 1 1 1			rev/min	Control rod travel mm	rev/min	travel mm	
ca.70	1250 1300 1340	16,0 11,2 5,6				ca.25 y	200 100 200	6,0 19 - 21 5,7-6,3	1230 1000 700	0 0,4-0,6 1,0-1,2
2 8	1310 1340 1500	8,0-10,6 4,0- 7,2 0 - 1					350 550	2,5-4,2	500	1,0-1,2

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	الع	II-foad stop	6 Rotational- speed limitat		el delivery aracteristics	Starting f	uel delivery 5	idle stop		
١	rev/min	cm ³ /1000 strokes	Note. changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm=/1000 strokes 7	rev/min	travel mm 9	
	1230	65,0-67,0	1260-1280	700 500 1250	70,0 - 73,0 67,5 - 70,5 mind. 65,0	100	18,7-19,3 mm RW	200 13,5- 17,5	(ca.6) cm³ 1000H	
				<u> </u> 					./.	

Checking values in brackets

* 1 mm less control rod travel than col. 2

12.75

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B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		interme	ediate rate	d speed	Control- lever deflection in degrees 7	rev/min	rated speed Control rod travel mm 9	11 0 1	rque control Control rod travel mm
ca.70	1250 1300 1340	16,0 11,2 5,6	*			ca.25	200 100 200	6,0 19 - 21 5,7-6,3	1230	0
29	1310 1350 1480	8,0-10,6 4,0-6,3 0,3-1,0	**				350 550	2,5-4,2 0 - 1	400	0,5-0,7

C. Settings for Fuel Injection Pump with Fitted Governor

	III-load stop	6 Rotational- speed limitat.		el delivery paracteristics	Starting f	Starting fuel delivery 5 48 idle sto		
	emp. 40°C (104°F) cm ³ /1000 strokes	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9
1250	61,5 - 63,5	1290-1300*	750	58,0-61,0	100	134,5-144,5		
					200	13,5- 17,5		
			1			<u> </u>	<u> </u>	<u> </u>

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

.. B 468 D

Uppe Degree of deflection of control lever	r rated speed Control rod travel mm		interm	nediate rated	speed	Control- laver deflection in degrees 7	rev/min	crrated speed Control rod travel mm	12 0 1	rque control Control rod travel mm
ca.47	750 780 810	16,0 11,6 .5,4		vithout spring	auxil	ca.22 ary	250 100	6,0 19 - 21		0
29	800 850 920	5,0-9,0 1,4-3,0 0 - 1		vith aux spring	kiliar	y	250 350 420	5,7-6,3 0,5-3,0 0 - 1	300	1,2-1,8

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	II-load stop	Rotational- speed limitat.		el delivery aracteristics	Starting f	uel delivery 5	Idle stop	
	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min	Control rod travel mm 9
750	76,0 - 78,0	760			100	129,5- 139,5	250	16-20
					780	9,5-13,5		

Checking values in brackets En

VDT-WPP 001/4

7. Edition

PES 4 A 85 C 420 LS 2263 .. D .. LS 2459 EP/RSV 375-1100 A 2B 554 DR A 2B 650 DR

supersedes company

engine

20.7.72 Case A 336BD

Test with case overflow valve!

Pay attention to special governor setting!

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15 + 0,1

Rotational speed rey/min 1	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ² / 100 strokes	Control rod trave! mm 2	Fuel delivery cm ^{\$} /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	4,1 - 4,5	0,4			
	6 12	1,1 - 1,9 7,2 - 8,0				
200	6	0,9 - 1,7				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

..554 DR, .. 650 DR

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Interm	Control- lever deflection in degrees 6 7 8				Control rod travel mm	rev/min	rque control Control rod travel mm
ca.39	1120 1160 1200	12,2 7,4 2,4	with spr	_	uxilia	ca.17	375 150 375	7,7 19 - 21 7,4-8,0	1100 900	0,3-0,5
28	1140 1200 1300	12,0-12,6 4,3- 5,6 0,3- 1		_	liary		450 580	3,3-5,4	500	0,4-0,7

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

ري	II-load stop emp 40°C (104°F)	Rotational- speed limitat Note: changed to	speed limitat characteristics e:			uel delivery 5	Control rod travel		
rev/min	cm ³ /1000 strokes 2	rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	mm 9	
1000	80,5-82,5	1140-1155*	750 600 1200	86,0 - 89,0 max. 88,0 6,5-14,5	100	12,7-13,3	375	18,5- 22,5	
								./.	

Checking values in brackets

* 1 mm less control rod travel than col 2

8.74

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40

WPP 001/4

3. Edition

En

PES 4 A 85 D 420 RS 2263 RS 2459 EP/RSV 375-875 A 7 B 696 R

supersedes

company

Test with case overflow valve!

Pay attention to special governor setting!

engine

C a s e A 301 BD

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15+0,1

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm\$/100 strokes	Spring pre-tensioning (torque-control valve) mm
1000	9	4,1 - 4,5	0,4			
	6 12	1,1 - 1,9 7,2 - 8,0				
200	6	0,9 - 1,7		·		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

\'	r rated speed Control rod travel mm	rev/min Controt rod travel mm rev/min	Intermediate rated speed			Control- lever deflection	Lower	rated speed Control rod travel mm	1131	rque control Control rod travel mm
lever 1	2	3	4	5	6	in degrees 7	8	9	10	11
ca.58	885	13,6	without auxilia spring with auxiliary spring			ca.30	375	8,0	875	0
	930 960	6,8 1,8				у	100 375	19 - 21 7,7-8,3	350	0,2-0,8
(2a)	960	6,3-8,0 2,5-5,3 0,3-1,0					450 550	2,0-4,7		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b F	all-load stop	6 Rotatronal- speed limitat		iel delivery naracteristics	Starting fuel delivery 5 4a Idle stop			
Test oil t rev/min 1	emp. 40°C (104°F) cm3/1000 strokes	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes	rev/min	cm ¹ /1000 strokes	rev/min 8	Control rod travel mm
875	97,5-99,5	880-895	900	69,5 - 92,5	100	12,7-13,3	375	15,5- 23,5
			940	11,5 - 19,5				

Checking values in brackets

* 1 mm less control rod travel than col. 2

8.74

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung c. 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en Republique Fédérale d'Allemagne par Robert Bosch GmbH.

WPP 001/4 HOR 2,0 a

1. Edition

En

PES 3 A 65 D 410/3 RS 1274

EP/RSV 400-1225 A1B1099DL

supersedes

company

1 - 2 - 3 +0,50 0 -120-240° (+0,75)

Holder VD 3 engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,85-2,05)

mm (from BDC)

RW 6,0 mm

Rotational speed	travel		Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm3/100 strokes	100 strokes	mm	cm³/100 strokes	mm .
1	2	3	4	2	3	6
1225	7,4-7,5	3,0-3,2	0,2(0,3)			
400	6,0		0,2(0,3)			
1000/500		C, 4 - 5	0,2(0,35)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Interme	ediate rate	ed speed	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	3 To	rque control Control rod travel mm 11
1oose	800	0,3 - 1,0				ca.26	400 100 400	5,4-5,6 min. 19 6,0-6,2	1225 700	± 0,1 7,4 8,2
ca.65	6,4 4,0 1450	1265-1275 1285-1315 0,3-1,7						0 - 1	450	8,9

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(4)	ill-load stop	Rotational- speed limitat	14.72	el delivery aracteristics	Starting f	uel delivery 5	49 Idk	stop Control rod
rev/min	emp. 40°C (104°F) cm ⁹ /1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ⁴ /1000 strokes 7	rev/min 8	travel mm 9
1225	30,5 - 31,5 (29,5 - 32,5)	1265-1275	1000	27,5-29,5 (26,5-30,5)	100	54,5-69,5 (min. 54,5	1	
			500	31,5-33,5 (30,5-34,5)				

Checking values in brackets

* 1 mm less control rod travel than col. 2

12.77

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40

WPP 001/4 FOR 4,2 f

1. Edition

En

.. B790L

PES 4 A 90 D 210 RS2505

EP/RSV 350-1300 AO B677L

supersedes

company engine Ford GB Dorset 254 CU

1 - 2 - 4 - 3 je 90°

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,50-2,60 (2,45-2,65)

mm (from BDC)

Rotational speed rev/min	Control rod travel	Fuel delivery cm³/100 strokes 3	Difference cm ⁵ / 100 strokes	Control rod travel mm 2	Fuel delivery cm ⁹ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	11,0	7,0-7,1	0,3(0,45)			
350	+0,1 8,4-8,5	0,9-1,5	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

..677L

14 5 7	r rated speed Control rod travel mm		Intermed	tiate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm	3 To	rque control Control rod travel mm
loose	800 x	0,3-1,0 1,7				ca.15	350 100 350	6,5 min.19 6,9-7,1		
ca.56		375 = 10.0 555 = 4.0 0,3-1,7					140-500 600	= 2,0 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

20	oll-load stop amp 40°C (104°F) cm3/1000 strokes	Rotational- speed limitat changed to) rev/min	el delivery aracteristics cm ³ /1000 strokes 5	idle	cm ³ /1000 strokes		e stop Control rod travel mm 9
1250	70,0-71,0 (68,0-73,0)	1365-1375*		100	94,25- 114,25	350	7,0

Checking values in brackets

* 1 mm less control rod travel than col. 2

7.73

BOSCH

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Testoil-ISO 4113

B. Governor Settings

Degree of deflection of control lever	rated speed Control rod travel mm		Interme	ediate rated	specd	Control- lever deflection in degrees 7	- Lower	rated speed Control rod travel mm	11 3 /	rque control Control rod travel mm
loose ca.56	800 x = 1365-1: 1525-1	0,3-1,0 1,7 375 = 10,0 555 = 4,0 0,3-1,7		- L		ca.15	350 100 350 440-500 600	6,5 min.19 6,9-7,1 = 2,0 0 - 1		

C. Settings for Fuel Injection Pump with Fitted Governor

	Il-load stop emp. 40°C (104°F)	Note:			Starting f	uel delivery 5	Idle stop Control rod		
rev/min 1	cm ³ /1000 strokes 2	changed to) rev/min 3		rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7		mm 9
1250	70,0-71,0 (68,0-73,0)	1365-1375*			800-	94,25- 114,25 ngagement 1000/min-l er also to		7,0 .2c)	

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

Degree of deflection of control lever	travei travei			Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	3 To	rque control Control rod travel mm 11	
			3						
29									

C. Settings for Fuel Injection Pump with Fitted Governor

	6 Rotational- speed limitat. 3 Fuel delivery characteristics			Starting fuel delivery 5 4e Idle stop				
	changed to)	rev/min	cണ³/1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min 8	Control rod travel mm	
2	3			<u> </u>				
		np. 40°C (104°F) Note: changed to)	np. 40°C (104°F) Note: changed to)	np. 40°C (104°F) Note: changed to)	np. 40°C (104°F) Note: changed to)	np. 40°C (104°F) changed to) rev/min rev/min rev/min rev/min rev/min rev/min rev/min rev/min rev/min	np. 40°C (104°F) Note: changed to) cm³/1000 strokes rev/min rev/	

Checking values in brackets En

WPP 001/4 FOR 6,2 a 2. Edition

En

PES 6 A 90 D 210 RS 2506, Z EP/RSV 350-1300 A0 B791L

.. RS 2506,Z

supersedes company

engine

7.78 Ford GB Parent Bore

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,45-2,65)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ³ /100 strokes 3	cm³/ 100 strokes 4	mm 2	cm ⁹ /100 strokes	mm 6
1250	11,0	7,0 - 7,2	0,3(0,45)			
350	+0,1 8,4-8,5	0,9 - 1,6	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in Σ

B. Governor Settings

..791L

Degree of deflection	travel	Control rod travel	Intern	nediate rat	ed speed	Control- lever	Lowe	r rated speed Control rod travel	3 To	rque control Control rod travel
of control lever 1	mm 2	mm rev/min 3	4	5	€	deflection in degrees 7	rev/min 8	mm 9	rev/min	mm 11
loose	800	0,3-1,0				ca.20	350	7,1	-	-
	x =	2,0					100	min. 19		
ca.56	1510-1	355 = 10,0 540 = 4,0 0,3 - 1,7					350 495-5 600	7,5-7,7 55 = 2,0 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

9	ill-load stop	6 Rotational- speed limitat		uel delivery naracteristics	Starting	fuel delivery 5	Idle stop		
rev/min	emp. 40°C (104°F) cm ^{\$} /1000 strokes 2	Note, changed to) and/min	rev/min	cm ³ /1000 strokes	rev/min	cm ¹ /1000 strokes	rev/min	Control rod travel mm	
1250	70,5-71,5 (68,5-73,5)	1345-1355*			100	94,25- 114,25	350	7,6	
1250	66,5-67,5 (64,5-69,5)	1345-1355*	600	43,0-49,0 (41,0-51,0)					
								./.	

Checking values in brackets

* 1 mm less control rod travel than col. 2

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung.

1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en Republique Fédérale d'Allemagne par Robert Bosch GmbH.

1.79

"Z"

B. Governor Settings

..792 L

	r rated speed Control rod travel mm		Interme	diate rated	speed	Control- lever deflection in degrees 7	- Lower rev/min 8	rated speed Control rod travel mm 9	rev/min	rque control Control rod travel mm
loose	800 x	0,3-1,0 0 2,0				ca.20	350 100	7,1 min.19	-	-
ca.56	1510-1	355 = 10,0 540 = 4,0 0,3-1,7					350 470- 5 600	7,5-7,7 30 = 2,0 0 - 1		

C. Settings for Fuel Injection Pump with Fitted Governor

	Full-load stop Test oil temp. 40°C (104°F)		6 Rotational- speed limitat.		el delivery aracteristics	Starting f	uel delivery 5	I die stop	
ı	1	emp. 40°C (104°F) cm³/1000 strokes	Note: changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min 8	travel mm 9
	1250	70,5-71,5 (68,5-73,5)	1345-1355*			100	94,25 114,25	350	7,6
"Z	1250	66,5-67,5 (64,5-69,5)	1345-1355*	600	43,0-49,0 (41,0-51,0)	800-1	gagement s 000/min ⁻¹ r also to		2c)

Checkir - alues in brackets

estoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

Degree of deflection of control lever	crated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Interme	ediate rated	speed 6	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	110	rque control Control rod travel mm
29										

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	II-load stop	6 Rotational- speed limitat		el delivery aracteristics	Starting f	uel delivery 5	stop
Test oil to rev/min	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	Control rod travel mm 9
<u> </u>							
						·	
					İ		

Checking values in brackets

WPP 001/4 DAF 8,3 b

2. Edition

PE 6 A 95 C 410 RS2311 .. D..

(1) RQ 225/1200 AB766L EP/RSV 250-1200 A5 B584L.. (2) supersedes company: engine

8.73 DAF DU 825

Test with overflow valve and "B" lines

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Rotational speed

1000

200

rev/min

estoil-ISO 411

2,0+0,1 - RW 9

51	roke 2	,0+0,1 - RW 9	mm (from BDC)			
	Control rod travel • mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
	12	7,4 - 7,8	0,4			
	9	3,1 - 3,8 1,2 - 2,0				
	Port clos	ing difference	between c	ontrol-ro	d travel 9 mm a	nd 21 =

3-4° camshaft. Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQ..AB766 L (1)

-	Checking	g of slider	Full-load	speed re	gulation	_	Idle spec	ed regula	ation	_	Torque c	-	
-	PRG che	ck (1	Setting p	oint	Test spec	cifications (4)	Setting r	point	Test spe	cifications (5)		¥.	(3)
	rev/min 1	Control red travel mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm	rev/min	Control rod travel mm 12	
	650 (Cor leve ca.	ntrol er	3 650	20,0		0 -10,6		0	250	9,8-11,7 7,3- 9,9 4,2- 7,0 0		-	

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on ontro! lever np. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b		Contret		
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes	rev/min	red travel cm ³ /1000 strokes:/ mm		
LDA 1000	0,45 bar 99,0 - 101,0		LDA 1000	O bar 1mmRW less	100	ca. 20 mm RW		
600	77,5 - 79,5							
						./.		

Chacking values in brackets

1.78



B. Governor Settings

EP/RSV..584L (2)

Degree of deflection of control lever	r rated speed Control rod travel mm	Control rod travel mm rev/min	Interme	ediate rated	speed	Control- lever deflection in degrees 7	Lowe rev/min 8	r rated speed Control rod travel mm	3 To	rque control Confrol rod travel mm 11
ca.56	1200 1260 1330	16,0 11,7 5,6	with spri	out au: ng	xiliar	ca.22	250 150 250	6,0 19 - 21 5,7-6,3	1180	0 0,1-0,3
29	1280 1350 1450	8,7-10,8 2,3- 5,5 0,3- 1	with spri	auxil ng	iary		350 470	2,1-3,8 0 - 1	300	0,8-1,0

C. Settings for Fuel Injection Pump with Fitted Governor

	II-load stop	6 Rotational- speed limitat		el delivery aracteristics	Starting f	uel delivery 5	Idle stop	
	emp. 40°C (104°F) cm ³ /1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min 8	travel mm 9
LDA 1200	0,45 bar 99,5-97,5	1210-1220*	LDA 1200	0 bar 1 mm RW 1ess	100	min. 20 mmRW	250	5,0

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

500 rev/min decreasing pressure – in bar gauge pressure

(1)

		(2)	
Pump/governor	Setting	Measurement	Control rod travel-difference (2)
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
2311 + 766L	0,24		- 0,2 - 0,3 0,6)1)
		0,16 - 0,18	- 0,6
2311 + 584DL	0,20 - 0,23	0,27 - 0,31	ca. 0,4 (2)
	·		

Notes:

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

En

WPP 001/4 DAF 6,2 h 1. Edition

En

PE 6 A 85 D 320 RS 2441

MB-EP/MV 80 AA188R

supersedes

DAF DD 575

RS 2441Z .. AA Testing with "B" leads - VDT-I-DAF 003

company engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15+0,1

RW9_{mm} (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	Cm /100 strukes	_
1	2	3	14	5	6	7
1000	9	4,2 - 4,5	0,4			
<u></u>	6 12	1,3 - 2,0 7,4 - 8,2				
	9 t closing 4° camsh	2,4 - 3,1 difference bet	ween cont	ol-rod t	avel 9 mm and	21 =

Adjust the fuel delivery from each outlet according to the values in [_______

B. Governor Settings

2441 + 188 R

			Control-rod travel limitation breakaway*		Control			Auxiliary spring auxiliary cam**		Torque control	
Torque control travel	Vacuum pressure drop			Control rod travel	Vacuum Control rod travel		Vacuum Control rod travel			Control rod travel	
mm	mm water col	s	mmwc	mm	mm w c	mm	mmwc	mm	mm w.c.	mm	
1	2	3	4	5	6	7	8	9	10	71	
	500-480	10	250 325-3	9 , 9 390*	400 525	5,3-9,2 0 -1,0	470 with	valve 4,5-6,0 auxiliary	spring		
= rotational sp adjust breakay	vel test (cols. 4- eed 500 rev/mii way (cols. 4-5) int (B 8-9 - C 7	n. by mean	s of shim eans of st	s* nims**				3,1-4,1 0 - 0,8			

C. Settings for Fuel Injection Pump with Fitted Governor

	full-load stop screw fest oil temp 40°C (104°F)			very character	istics	idle (stop idle (imb		Control road travel from full-load to
rev/min	Vacuum mm wat col	cm ³ /1000 strokes	rev/min	Vacuum mm wat col 5	cm³/1000 strokes 6	rev/min 7	Vacuum mm wat col	mm cm³/1000 strokes 8
1000		48,5-50,5	100	Start	ca. 18 mmRW			
								./.

Checking values in brackets

10.77

!	Leakage		Control limitation	ก	Control	od travel test	Auxiliary auxiliary		Torque co	ontrol
Torque control travei	Vacuum pressure drop	[Time	Vacuum	Control rod travel	Vacuum	Control rod travel		Control rod travel		Control rod travel
	mm water col.	1) jinntw.c.	mm	mm w.c.	mm	mm w.c.	mm	mmw.c.	mm
1	2	3	4	5	6	7	8	9	10	11
-	500-480	10	350 400-	9,6 460*	500 600	3,8-7,5 0 -2,2	470	<pre>valve 4,5-6,0 auxiliary 3,5-4,5</pre>	spring	
= rotational sp adjust breaka	vel test (cols. 4- peed 500 rev/mi way (cols. 4-5) ant (B 8-9 - C 7-	n by mean	s of shimeans of s	ns* hims**			800	0 -0,8		

C. Settings for Fuel Injection Pump with Fitted Governor

ಏ	Full-toad s Test oil ter rev/min 1	np. 40°C (104°I Vacuum	cm ³ /1000 strokes		Vacuum rnm wat. col.	stics cm ³ /1000 strokes 6	idle (stop idle (imba rev/min 7	Control road travel from full-load to idle mm cm ³ /1000 strokes 8	
	1000		48,5 - 50,5	100	Start	ca. 18 mm RW			

Checking values in brackets

B. Governor Settings

	Leakage Control-rod travel limitation breakaway*		Control	od travel test	Auxiliary auxiliary		Torque control			
Torque control travel				Control rod travel		Control rod travel		Control rod travel		Control rod travel
mm	mm water col.	s	mmw.c.	mm	mmw.c.	mm	mm w.c.	mm	mm w.c.	mm
1	2	3	4	5	6	7	В	9	10	11
adjust breakey	vel test (cols. 4- eed 500 rev/mii way (cols. 4-5) nt (B B-9 - C 7	n. bv mean	s of shim	s°						

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load stop screw Test oil temp. 40°C (104°F) rev/min		Fuel delivery characteristics Vacuum mm wat. col. cm³/1000 strokes 6)** alance) Vacuum mm wat. col.	Control road travel from full-load to idle mm cm ³ /1000 strokes 8	
,	2							

WPP 001/4 DAF 6,2 q 1. Edition

PE 6 A 85 D 320 RS 2441

MB-EP/MV 80 AA189DR

supersedes

DAF DF 615

RS 2441Z Testing with "B" leads - VDT-I-DAF 003

AA189R

./.

company engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15+0,1

RW 9_{mm (from BDC)}

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel mm	Fuel delivery cm ¹ /100 strokes	Spring pre-tensioning (torque-control valve)
1:	2	3	4	5		17
1000	9	4,2 - 4,5	0,4			
1	6 12	1,3 - 2,0 7,4 - 8,2				
200	9	2,4 - 3,1				

Adjust the fuel delivery from each outlet according to the values in formal according to the values according to the values according to the values according to the value according t

B. Governor Settings

Testoil-ISO 4113

	rnor Se	tting	3 5				244	11 + 189		
d	Ì		Control-rod travel limitation breakaway*		Control	Control rod travel test		Auxiliary spring auxiliary cam**		ontrol
Torque control travel	Vacuum pressure drop			Control rod travel		Control rod travel	Vacuum	Control red travel		Control rod travel
mm	mm water col.	s	mmwc	mm	mmw.c	mm	mmwc	mm	mm.w.c.	mm
1	2	3	4	5	6	7	8	9	10	11
	500-480		500 0-675	9,9 *	700	2,0-8,5	750 with	auxiliary	spring	
= rotational sp actiust breaks	vel test (cols. 4- eed 500 rev/mi way (cols. 4-5) int (B 8-9 - C 7-	s of shim eans of st	s* nims**			750 1000	4,4-5,5 0 -0,6			

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load s Test oil ter	stop screw mp 40°C (104°)	F)	Fuel deliv	ery characteri	stics	rtle (stop idle (imb		Control road travel from full-load to idle
rev/min	Vacuum mm wat col	cm³/1000 strokes	rev/min	Vacuum mm wat col	cm ³ /1000 strokes 6	rev/min 7	Vacuum mm wat col	mm cm³/1000 strokes · 8
1000		54,5-56,5	100	Start	ca.18 mmRW			
**		sing differenc amshaft.	e beti	een con	rol-rod travel	9 mm	and 21 =	./.

Checking values in brackets

10.77

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	Leakage		Control-rod travel limitation breakaway*		Control rod travel test		Auxiliary spring auxiliary cam**		Torque control	
	Vacuum pressure drop	1		Control rod travel		Control rod travel	Vacuum mm w.c.	Control rod travel		Control rod travel mm
ጠጠ 1	mm water col. 2	s 3	mmw.c.	mm 5	mm w.c.	7	8	9	10	11
-	500-480	10	600	9,9	750	2,5-8,4 0 -1,2	Push 750	valve 4,5-6,0		
control rod tra	vel test (cols. 4-	-11)	655-	735*			with 850 1100	auxiliary 3,4-4,6 0 -0,6	spring	

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load : Test oil te	Full-load stop screw Test oil temp. 40°C (104°F)			ery character	istics	idle (stop idle (imb		Control road travel from full-load to idle
fev/min 1	Vacuum mm wat, col. 2			Vacuum mm wat. col. 5	cm ³ /1000 strokes 6	rev/min 7	Macuum mm wat. col.	mm cm ³ /1000 strokes 8
1000		54,5-56,5	100	Start	ca. 18 mmRW			

Checking values in brackets

B. Governor Settings

	Leakage		Control-rod travel limitation breakaway*				Auxiliary spring auxiliary cam**		Torque control	
Torque control travel	Vacuum pressure drop			Control rod travel	'/acuum 	Control rod travel	Vacuum	Control rod travel		Control rod travel
mm	mm water col.	s	mmw.c	mm	mm w.c.	mm	mm w.c.	mm	mm.w.c.	mm
1	2	3	4	5	6	7	8	9	10	11
	•									
control rod travel test (cols. 4-11) rotational speed 500 rev/min. adjust breakaway (cols. 4-5) by means of shims* cam adjustment (B 8-9 - C 7-8) by means of shims*										

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load s Test oil ter rev/min 1	Test oil temp. 40°C (104°F)			Vacuum mm wat. col.	stics cm ³ /1000 strokas 6	idle (stop idle (imba rev/min 7	Control road travel from full-load to idle mm cm ³ /1000 strokes 8

②

Test Specifications Fuel Injection Pumps ② and Governors

4

WPP 001/4 DAF 6,2c 1 2. Edition

<u>En</u>

PE 6 A 90 D 320 RS2386

RQ 250/1200 AB749R

supersedes

6.76

Testing with "B" leads

company:

DAF

engine:

DTD 615

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

六大

Port closing at prestroke

2,2 +0,1 (RW 9)

m (from BDC)

Rotational speed rev/min	Control rod travel mm	, , , , , , , , , , , , , , , , , , , ,	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	5,1 - 5,5	0,4			
:	6	1,6 - 2,6				
200	9	2,9 - 3,9				9
**	Port cl 2.5-3.5°	ósing difference camshaft.	between	control-r	od travel 9 mm	and 21 =

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Testoil-ISO 4113

PRG chec	ck Control rod travel	Full-load s Setting po rev/min 3	Test spec Control rod travel	rev/min	Idle spee Setting p rev/min 7	Control rod travel	Test spe	cifications (5) Control rod travel mm 10	rev/min	Control rod travel
650 120	19,7-20,3) Breakaway			0 - 9,0		0	250	9,0-11,7 7,1-10,0 4,0- 7,2 0 - 3	-	-

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation: At 1245-1260

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor co Test oil tem		Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting for Idle spee	uel delivery d Control
rev/min	i	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	red travel cm ³ /1000 strokes:/ mm 7
1000	67,0 - 69,0					

Checking values in brackets

BOSCH

8.76

40

WPP 001/4 HOR 1,0 b
1. Edition

En

PES 3 A 55 C 410/3 RS 1174

EP/RSV 600-2400 A9B237DL

supersedes -

company Holder

engine HD 3

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Fort closing at prestroke

estoil-ISO 4113

1,7 + 0,1

mm (from BDC)

-RW 9 -

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes	cm³/ 100 strokes 4	mm 2	cm ⁹ /100 strokes 3	mm 6
1000	12	2,5 - 3,1	0,3	12	2,9 - 3,3	
	9	0,7 - 1,5		9	1,2 - 2,0	
200	. 9	0,6 - 1,3		9	0,9 - 1,7	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	Control rod travel mm rev/min	Interme	diate rate	ed speed	Control- lever deflection in degrees 7	Lowe rev/min 8	r rated speed Control rod travel mm	3 To	rque control Control rod travel mm
ca.70	2400 2540 2680	16,0 11,8 6,7		without auxilia spring				19,0-21,0		0 1,1-1,3
28	2640 2800 3100	6,4-9,6 1,8-4,4 0,3-1,0	wit spr		iliary		900	2,8-4,4	H	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	ill-load stop	6 Rotational- speed limitat	Rotational- speed limitat 3a Fuel delivery characteristic			uel delivery 5	da Idle stop		
Test oil to rev/min	emp. 40°C (104°F) cm³/1000 strokes 2	Note changed to } rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min	travel mm	
2200	20,2-21,2	2420	1800	21,7-23,7					

Checking values in brackets

* 1 mm less control rod travel than col 2

12.77

BOSCH

Geschattsbereich KH. Kundendienst. Kfz-Ausrustung. 1980 by Robert Bosch GmbH. Postfach 50. 0-7000 Stuttgart 1. Printed in the Federal Republic of Germany. Imprime en République Federale d'Allemagne par Robert Bosch GmbH. 2

Test Specifications Fuel Injection Pumps 2 and Governors

4

WPP 001/4 HEN 6,5 c 1. Edition

<u>En</u>,

PE 5 A 90 D 412 RS 2247

RQ 250/1300 AB 957 D

supersedes

company

Henschel HHF 552

1 - 2 - 4 - 5 - 3 je 72°

engine:

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,5 * 0,1

mm (from BDC)

Rotational speed	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes	cm³/ 100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6
1000	9	6,6 - 7,0	0,4			
	6	2,8 - 3,6				
200	6	0,1 - 0,8				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	ck Control rod travel	Full-load s Setting po rev/min 3		Test spec Control red travel	rev/min	Idie spec Setting p rev/min 7	Control rod travel		cifications 5 Control rod	rev/min	Control rod (3)
650	15,6-16,4	650	16,0				0	150 250 400 520	7,0-8,1 5,7-7,7 1,9-4,3 0	-	-

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At 1345-1360

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor co	elivery on oratrol lever ip. 40°C (104°F)	2	Control rod stop 3a	Fuel delive	rry characteristics 3b	Starting f Idle spee	Control
rev/min	cm ³ /-1000 strokes		rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	cm³/1000 strokes / mm 7
1300	80,0 - 82,0		600		-	100	ca. 16 mm RW

Checking values in brackets

11.75

BOSCH

WPP 001/4 FOR 4,2 e 1. Edition

En

PES 6 A 85 D 210 RS 2379

EP/RSV 350-1300 A0 B2030DL .. B2031DL supersedes

Ford England Parent Bore 363 87 kW (118 PS)

See FOR 4,2 c!

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,45-2,65) RW 9

mm (from BDC)

Rotational	Control rod travel	Fuel dalivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min .	mm 2	cm³/100 strokes	100 strokes	mm 2	cm ⁹ /100 strokes	mm 6
1250	8,5-8,6	5,0 - 5,2	0,3(0,45)			
350 500	6,4-6,6	0,9 - 6,5 0 4-5	0,2(0,4) 0,4(0,55)			
•						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

estoil-ISO 4

	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Intermed	hate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	1101	rque control Control rod travel mm
100se ca.60 ca.60	800 1600 7,5 4,0	0,3-1,0 0,3-1,7 1370-1380 1470-1500				ca.25	350 100 350 565-6 650	6,0 min.19 6,4-6,6 25 = 2,0 0 - 1	1250 730 500	+0,1 8,5 9,0 9,2

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	ill-load stop	6 Rotational- speed limitat 3a Fuel delivery characteristics			Starting f	uel delivery 5	4a) Idle stop	
Test oil to rev/min 1	st oil temp 40°C (104°F) Note changed to)		rev/min	cm ³ /1000 strokes 5	rev/min 6	cm=/1000 strokes 7		Control rod travel rnm 9
1250	51,0 - 52,0 (49,0 - 54,0)	1370-1380*	500	44,0-46,0 (42,0-48,0)	100	19 - 21		

Checking values in brackets



WPP 001/4

1. Edition

PES 4 A 90 D 410 RS 2442

RQ 275/1300 AB994L

supersedes

company

OM-Brescia

Setting of check switch at 1480-1490 min-1 - lamp must light up!

engine

C03/130

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings
2,15-2,25
Port closing at prestroke (2,10-2,30)

mm (from BDC)

Rotational speed rev/min	travel		Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve mm 6	
1300	11,7	8,0 - 8,2	0,2(0,35				
	(+0,1)						
275	8,3-8,5	1,5 - 2,1	0,2(0,3)				
650		C 4-5	0,3(0,4)				
•				<u> </u>			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1	Checking PRG chec	of slider	Full-load sp Setting poi			cifications (4)	Idle spee Setting p	_		cifications (5)	Torque c	(3)
		Control rod travel mm			Control rod travel rnm 5	rev/min 6	rev/min 7	Control rod travel rnm 8	rev/min	Control rod travel mm	rev/min	travel
	900	15,6-16,4	900	16,0	_	1345-1360	l	8,5		min.10,0 8,4-8,6	1300 650	11,7-11,8 12,2-12,4
Į,	130) Breaka	way		4,0	1490-1500				30 =2,0	500	12,4-12,6
	160	0 - 1										

Torque-control travel on flyweight assembly dimension a =

Col.11-12 Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on ontrol lever ap. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting fuel delivery tdle speed Central		
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min 4	cm ³ /~1000 strokes 5	rev/min 6	red travel cm ³ /1000 strokes / mm 7	
1300	80,5 - 81,5 (78,5 - 83,5)		650	79,5 - 82,5 (77,5 - 84,5)	100	119,25-129,25	

Checking values in brackets

10.77



WPP 001/4 HEN 8,2 b 1. Edition

PE 6 A 90 D 412 RS 2253

RQ 250/1300 AB 957 D

supersedes

company: engine:

Henschel HHF 562

Alt test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,5 + 0,1

Port closing at prestroke

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	6,6 - 7,0	0,4			
	6	2,8 - 3,6				
200	6	0,1 - 0,8				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Check	ng of slider	Full-load s	peed re	gulation		Idle spec	ed regule	ition		Torque control		
PRG d	eck (1)	Setting po	int	Test spec	Test specifications (4)		Setting point Test specifications (5)			(3)		
rev/mi	Control rod travel mm	rev/min	Control rod travel mm 4	Control rod travel rnm 5	rev/min 6	rev/min 7	Control rod travel mm 8	rev/min 9	Control rod travel mm	rev/min	Control rod (travel	
650	15,6-16,4	650	16,0		15,6-16,0 10,0-14,2 0 - 8 0	620	0	150 250 400 520	7,0-8,1 5,7-7,7 1,9-4,3 0	-	-	

Torque-control travel on flyweight assembly dimension a =

1345-1360 Speed regulation: At

1 mm less control rod travel

C. Settings for Fuei Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting f	uel delivery d Control		
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	red travel cm ³ /1000 strokes;/ mm 7		
1300	82,5 - 84,5	600			100	ca. 17 mm RW		

Checking values in brackets

11.75

WPP 001/4 DAF 6,2 b 3 2. Edition

PE 6 A 85 D 320 RS2376

EP/RSV 250-1300 A1B639R

supersedes 9.74

company

DAF

Testing with "B" leads !

engine

DF 615

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15+0,1(RW 9)

mm (from BDC)

Rotational speed	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes	cm³/ 100 strokes 4	mm 2	cm ^{\$} /100 strokes 3	mm 6
1000	9	4,2 - 4,5	0,4		0: , ya- ,	
	6 12	1,3 - 2,0 7,4 - 8,2				
200	9	2,4 - 3,1				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Intermed	diate rated	speed	Control- lever deflection in degrees 7	rev/min	r rated speed Control rod travel mm 9	11 0 /	rque control Control rod travel mm 11
ca.72	1300 1350 1390	16,0 10,0 4,0	with spri	out au ng	xilia	ca.26	250 100 250	6,0 19 - 21 5,7-6,3	400 290	0
29	1360 1400 1480	7,0-10,6 2,4- 5,5 0,3- 1,0	with spri	auxil ng	iary		350 440	0,8-3,5 0 -1,0	230	1,21,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b Fu	II-load stop	Rotational- speed limitat		et delivery paracteristics	Starting Idle	fuel delivery 5	4a Idle stop	
Test oil te rev/min	cm ³ /100 ⁰ strokes	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm ² /1000 strokes 7	rev/min 8	Control rod travel mm 9
1000	54,5 - 56,5 (53,0 - 58,0)	1310-1320			0	20 mm RW	250	6,0
**	 Port closing di 3-4° camshaft		ween	control-rod tra	ve1 9	nm and 21 =		

Checking values in brackets

WPP 001/4 SCL 4,7 a

1. Edition

PES 4 A 85 C 410 RS2279

EP/RSV 250-1000 A1B524DL

supersedes (1)

RS2279

EP/RSV 250- 950 A1B669DL

company

Schlüter

RS2279Z

EP/RSV 250-950 A1B669DL

engine

SDM 110 W4 (1) SDMT 110 W4 (2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,4 + 0,1

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2 cm³/100 strokes 2 Control rod Fuel delivery cm³/100 strokes 4		Control rod travel mm 2	Fuel delivery cm ² /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6	
1000	9	5,1 - 5,5	0,4	9	4,2 - 4,5	
	6 15	1,3 - 2,1 12,1 -13,2		6 -	0,7 - 1,4	
200	6	0,1 - 0,9		9	1,4 - 2,2	

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

524DL

	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Intermed	nate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm 9	1(3)	rque control Control rod travel mm
ca.50	1000 1020 1050	12,0 9,4 5,0		without auxiliar spring		ca.20 ry	250 150 250	5,5 19 - 21 5,2-5,7	980 600	0 0,6-0,8
2 a	1020 1050 1150	8,5-10,2 4,3-6,4 0,3-1,0	with spri	auxil ng	iary		350 540	2,9-4,2 0 - 1	350	0,9-1,1

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b Fu	ill-load stop	6 Rotational- speed limitat		iel delivery paracteristics	Starting f	uel delivery 5	(4a) idi	e stop
rev/min	emp 40°C (104°F) cm ³ /1000 strakes 2	Note. changed to) rev/min 3	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9
980	51,5-55,5	1020			100	ca.20 mm RW	250	5,5

Checking values in brackets

* 1 mm less control rod travel than col 2

5.77

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en Republique Federale d'Allemagne par Robert Bosch GmbH.

669DL

B. Governor Settings

	rection travel travel control mm mm rev/min			Control- lever deflection in degrees 7		rated speed Control rod travel mm	1 \	rque control Control rod travel mm		
ca.50	950 1000 1030	16,0 10,6 6,5	without auxiliar spring			ca.21 y	250 150 250	6,0 19 - 21 5,7-6,3	930 820	0 0,3-0,5
29	1050	9,3-11,5 3,7- 5,4 0,3- 1,0	with auxiliary spring			400 550	1,5-3,6 0 - 1	400	0,4-0,6	

C. Settings for Fuel Injection Pump with Fitted Governor

ピツ	Il-load stop	6 Rotational- speed limitat.		el delivery aracteristics	Starting f	uel delivery 5	Idle stop	
Test oil temp. 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note: changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min 6	cm³/1000 strokes 7	i	travel mm 9
950	73,0 - 75,0	970	700 500	75,5 - 78,5 68,0 - 71,0				

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

669DL mit 2279Z

	rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Intermed	diate rated	speed	Control- lever deflection in degrees 7		rated speed Control rod travel mm 9		rque control Control rod travel mm
ca.50	950 1000 1030	16,0 10,6 6,5		without auxiliar spring			250 150	6,0 19 - 21	930 820	0 0,3-0,5
29	1000 1050 1170	9,3-11,5 3,7- 5,4 0,3- 1,0	with auxiliary spring			250 400 550	5,7-6,3 1,5-3,6 0 - 1	400	0,4-0,6	

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp. 40°C (104°F)	Rotational- speed limitat.		el delivery aracteristics	Starting fi Idle	Contro		
rev/min	1	changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7'	rev/min 8	travel mm 9
950	90,5 - 92,5	970	700 500	92,5 - 95,5 86,5 - 89,5				

Checking values in brackets En

WPP 001/4 SCL 9,5 a 1. Edition

En

PE 8 A 85 C 410 RS2281

EP/RSV 250-1100 A1 B524DL (1)

supersedes company

Schlüter

EP/RSV 250-1025 A1 B778DL (2)

SDM 110 WB !1) SDMT 110 WB (2)

 $1 - 4 - 7 - 6 - 8 - 5 - 2 - 3 - je 45^{\circ}$

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm³/100 strokes 3	mm 6
1000	9	5,1 - 5,5	0,4	9	4,2 - 4,5]
	6 15	1,3 - 2,1 12,1 -13,2		6 -	0,7 - 1,4	
200	6	0,1 - 0,9		9	1,4 - 2,2	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

524 DL

11 1 1 1 1	r rated speed Control rod travel mm		Intermed			Control- lever deflection in degrees 7		rated speed Control rod travel mm 9		que control Control rod travel mm
ca.50	1100 1130 1150	12,0 8,0 5,0	without auxiliar spring			ca.20 y	250 150 250	5,5 19 - 21 5,2-5,8	1080 600	0 0,6-0,8
29	1120 1150 1250	8,0-10,6 3,5-6,0 0,3-1,0	with spri	auxil ng	iary		350 540	3,1-4,1 0 - 1	350	0,9-1,1

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load Stop	6 Rotational- speed limitat		iel delivery paracteristics	Starting fi Idle	uel delivery 5	da Idle stop	
Test oil t	emp 40°C (104°F) cm ³ /1000 strokes	Note changed to) rev/min 3	rev/min	cm ² /1000 strokes	rev/min	cm ^{-/} 1000 strokes 7	rev/min	travel mm 9
1100	68,5 - 70,5	1120			100	ca.20mmRW	250	5,5
	;							

Checking values in brackets

* 1 mm less control rod travel than col 2

5.77

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. 1980 by Robert Bosch GmbH. Postfach 50, 0-7000 Stuttgart 1. Printed in the Federal Republic of Germany. Imprime en République Federale d'Allemagne par Robert Bosch GmbH.

B. Governor Settings

	r rated speed	rev/rnin Co_itrol rod	Intermediate rated speed			Lower rated speed			3 Torque control		
Degree of deflection of control	travel mm	travel mm rev/min				Control- lever deflection in degrees	rev/min	travel mm	rev/min	travel mm	
lever 1	2	з	4	5	6	7	8	9	10	11	
ca.51	1025	12,0	witho	vit 211	vilian	ca.20	250	5,5	1000	0	
	1050 1080	8,4 3,6		without auxil spring			100 250	19 - 21 5,2-5,8	400	0,9-1,1	
28	1040 1100 1200	9,0-10,4 2,2-3,7 0,3-1,0	with sprin	auxil ng	iary	,	350 520	2,8-4,0			

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Ft	ill-load stop	6 Rotational- speed limitat.		uel delivery naracteristics	Starting f	tuel delivery 5			
Test oil to rev/min 1	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9	
1025	78,5-80,5	1065-1075*	700 500	83,5 - 86,5 75,0 - 78,0	100	ca.20mmRW	250	5 , 5	

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

Degree of deflection of control lever	rated speed Control rod travel mm		Intermed	liate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	 rque control Control rod travel mm
		·							
29									

C. Settings for Fuel Injection Pump with Fitted Governor

	il-load stop	6 Rotational- speed limitat.		el delivery aracteristics	Starting f	uel delivery 5		stop
rev/min	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm³/1000 strokes	rev/min	cm ³ /1000 strokes 7		Control rod travel mm
ľ							1	

Checking values in brackets En

Testoil-ISO 4113

WPP 001/4

3. Edition

PES 8 A 80 D 321 RS2429 RS2478 ROV 300-1500 AB874R ROV ... AB874R, ...945DR supersedes company:

4.77 **Berliet**

1 - 5 - 4 - 8 - 6 - 3 - 7 - 2

engine:

V 800..

0 -45 -90 -135-180-225-270-315°

Test with "B" lines - set shutoff device to 0.5-1.0 mm CRT!

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,9 + 0,1

mm (from BDC)

Rotational speed		Fuel delivery cm³/100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	3,2 - 3,5	0,3	9	4,6 - 4,9	1
200	6 12 9	0,2 - 1,5 6,0 - 6,8 1,6 - 2,4		6 - 9	1,1 - 2,3 3,1 - 3,9	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RQV .. 874R

Upper rated s	peed			Intermediate	rated spe	eed	Lower rated	speed	1	Sliding s	eeve travel
Degree of deflection	rev/min Control rod travel	Control rod travel mm rev/min	(a) (2a)	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min 8	Control rod travel mm 3	rev/min 10	1) mm 11
ca.68		6,2-11 0 - 1	1,9 1,5	-	-	-	ca.13	200 350 600 800 900	6,4-8,4 3,5-5,5 1,6-2,7 0-1,1		0 - 0,9 1,6-2,4 2,6-3,2 8,3

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil terr		timitation intermediate speed	high idle s	rery characteristics 58 peed (50)	Starting Idle switchir		Torque-	control 5 Control rod travel
rey/min	cm ³ /1000 strokes	rev/min (4e)	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	MIT
1	2	3	4	5	6	7	8	9
1500	54,5 - 56,5	1540-1550*			100	59,5-69,5 =	2429	
1300	01,0				100	69,5-84,5 =	2478	
					300	7,5-11,5		- 1
		<u> </u>		Cha	nge-	ver point 18	0-250	min '
			<u> </u>					

Checking values in brackets

ravel	
0,9 -2,4 -3,2	

Upper rated s	peed		Intermedia	te rated spe	ed	Lower rated	speea		Sliding sl	eeve travel
Degree of deflection		Control rod (1	Degree of deflection		Control rod travel	Degree of deflection	l	Control rod travel	_	1
of control lever	rodtravel	mm rev/min (2	of control lever	rev/min	mm 4	of control lever	rev/min	mm ③	rev/min	mm
1,	12	3	4	5	6	7	8	9	10	11
ca.68	1510 1570 1630 1690 1800	11,2-14 6,2-11 0 - 7	,9 ,5	-	-	ca.13	200 350 600 800 900	6,4-8,4 3,5-5,5 1,6-2,7 0 -1,1	600 1510 1500	0- 0,9 1,6-2,4 2,6-3,2 8,3 0 1,2-1,5

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo		Rotational-speed (2b) Ilmitation Intermediate speed	Fuel delivery characteristics 5a high idlé speed 5b		Starting lidle switching		Torque- travel	Control cod
rev/min	cm ³ /1000 strokes	rev/min 4a	rev/min	cm ² 71000 strokes	rev/min	cm3/1000 strokes	rev/min	travel mm
1.00	12	1540-1550*	1200	46,5-49,5	100	69,5-84,5	0	3
1500	44,5-46,5	1540-1550	900					
					300	7,5-11,5		
					250	-180 min ⁻¹		
1								
					<u> </u>		<u></u>	

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

Upper rated	speed			Intermediate	rated spe	ed	Lower rated	speed		Sliding sl	eeve travel
Degree of deflection	rev/min	Control rod	(ta)	Degree of deflection		Control rod travel	Degree of deflection]	Control rod travel		1
of control lever	rod travel	mm rev/ran	(2a)	of control lever	rev/min	mm 4	of control lever	rev/min	тт 3	rev/min	mm
١,	2	3	$\overline{}$	4	5	6	7	8	9	10	11
							3a)				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roa Test oil ten	elivery distop np 40°C (104°F) 2	Rotational-speed 2b Ilmitation intermediate speed	1	very characteristics 58 speed 5b	Starting Idle switchin	fuel delivery 6	Torque- travel	Control rod travel
rev/min	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
۱,	2	3	4	5	6	7	8	9
							Ţ	
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l			ĺ					

Checking values in brackets

* 1 mm less control rod travel than col 2

Testoil-ISO 41

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 VOL 5,0 d

1. Edition

PES 6 A 90 D 320 RS2320

RQV 200-1400 AB942/2R

supersedes _

Test with overflow valve and "B" lines

company: V o 1 v 0 D 50 B engine:

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Teste/s

A. Fuel Injection Pump Settings 2,0+0,1 - RW 9

Port closing at prestroke

mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	6,4 - 6,8	0,4		ì	2,5 ± 0,1 ** (2,2-2,9 max.)
	6 9	0,3 - 0,9 2,6 - 3,5				
200	9	0,8 - 1,7				

Adjust the fuel delivery from each outlet according to the values in

** In the case of greater dispersion alter the delivery-valve spring pre-tension

B. Governor Settings

Upper rated s	speed			Intermediate	rated spe	eed	Lower rated	speed		Slidings	leeve travel
Degree of deflection of control	rev/min Control rod travel	Control rod travel	(a)	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	5,,,,,,,,,	1
lever		rev/min	(28)		fev/min	mm (4)	lever	rev/min	mm (3)	rev/min	mm
1	2	3		4	5	6	7	8	9	10	11
ca.68	1400 1450 1500 1600 1730	15,0-18 10,8-14 7,2-12 0 - 6	,6	-	ı	-	ca.12	150 250 350 450 560	6,4-8,0 3,8-6,2 2,2-3,5 0,9-2,2	-	•
							3		· · · · · · · · · · · · · · · · · · ·		

Torque control travel a =

C. Settings for Fuel injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F)		Rotational-speed (2b) limitation intermedate speed	Fuel deliv	rery characteristics 5e peed 50	Starting Idle switchin		Torque- travel	control 5
rev/min	cm³/1000 strokes	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9.
800	46,5 - 48,5	1440-1450*			60	mind.18mmRW		
			1,	d	200 isper	5,25-11,25 sion max.1,5)	- **c∂	. RW8,5
					isper	12,25-17,25 sion max.3)	-ca.	RW5

Checking values in brackets *1 mm less control rod travel than col. 2 *** Port closing difference between control-rod travel 9 mm and 21 = 6.761.2 + 0.1 mm camshaft

WPP 001/4 VOB 5,0 b

1. Edition

PES 6 A 90 C 320 RS 2320,... .. D ..

RQV 200-1200 AB 751 300-1200

supersedes 5.72 BOL 5,0d

company: VOIVO-BM engine: D 50 B (1-3)

RQV 300-1100 AB 743

(3)

Test with overflow valve and "B" lines

All test specifications are valid for Bosch Fuel Injection Pump Test Banchas and Testers A. Fuel injection Pump Settings

Port closing at prestroke

2,0+0,1 -RW 9

mm (from BDC)

(1) (2)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6	
1000	2	6,4 - 6,8	0 , 4			2,5 <u>+</u> 0,1**	
	6	0,3 - 0,9					
	9	2,6 - 3,5					
200	9	0,8 - 1,7					

Adjust the fuel delivery from each outlet according to the values in

** In the case of greater dispersion alter the delivery-valve spring pre-tension

B. Governor Settings

RQV 200-1200 AB 751 (1)

Upper rated speed Degree of rev/min Control rod (a)				Degree of Control rod				Lower rated Degree of deflection	speed	Slidings	Sliding sleeve travel	
deflection of control lever	Control rod travel mm	travel mm rev/min	\simeq	deflection of control lever	rev/min 5	travei mm 6	•	of control lever	rev/min	mm (3	rev/min	mm 11
ca.68	1250 1300 1380 1470	0 - 6	,2 ,0 ,8	- diffe	ranca	het	ween	ca.12	100 250 350 450 630	7,0-8,0 4,9-7,1 2,4-4,5 1,6-3,0 0		8,0 21 =
	***	1,2 + 0	,1 n	nm camsh	aft	Det	MECII	38	ou ci			

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Control-rod stop		Rotational-speed (2b) limitation intermediate speed	Fuel deliv	rery characteristics 5a	Starting Idle switching	•	Torque-control 5 travel Control ros	
rev/min cm³/1000 strokes		rev/min 4	rev/min	cm ³ /1000 strokes		cm³/1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9 .
-800 Z800 Y800 X800 V800 W800 U800	42,0-44,0 30,0-32,0 34,0-36,0 35,5-37,5 38,0-40,0 27,0-28,0 55,0-57,0	1210	500	di	pers 1300	min.18 mmRW 5,25-11,25) on max.1,5 5,25-11,25 on max.1,5 12,25-17,25 ion max.3	* -200-	1200 1200

Checking values in brackets

* 1 mm less control rod travel than col. 2

8.75

Testoil-ISO 4113

B. Governor Settings

RQV 300-1200 AB 751 (2)

Upper rated	speed		Intermediate	rated spe	ed	Lower rated	speed	Sliding sleeve travel		
Degree of deflection of control lever	Control rodtravel	Control rod (1a) travel mm rev/min (2a)	deflection of control	rev/min	Control rod travel mm 4	Degree of deffection of control lever	rev/min	Control rod travel	rev/min	mm
1	2	3	4	5	6	7	18	9	10	11
ca.68	1250 1310 1370 1430 1530	15,0-18,0 10,3-14,7 5,0-11,0 0 - 7,2 0	-	_	-	ca .12	200 350 500 600 680	7,0-8,2 3,6-5,8 1,6-3,2 0 -1,4	1250	8,3
						3a				

Torque control travel a =

C. Settings for Fuel injection Pump with Fitted Governor

Full-load de Control-rod Test oil tem	stop	Rotational-speed limitation intermediate speed	_	Fuel deliv high idle s	rery characteristics 5a peed 5b	Starting Idle switchir		Torque- travel	Control rod
rev/min	cm ³ 1000 strokes	rev/min	(4a)	rev/min	cm ²⁷ 1900 strokes	rev/min	cm3/1000 strokes	rev/min	travel mm
1	2	3		4	5	6	7	8	9
Full-1	oad delivery	see page	1!						
							•		

Cho king values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

RQV 300-1100 AB 743 (3)

Upper rated s	speed			Intermediate	rated spe	ed	Lower rated	speed	Sliding sleeve travel		
Degree of deflection of control	rev/min Control rod travel	Control rod travel	(1a)	Degree of deflection of control	l	Control rod travel	Degree of deflection of control		Control rod travel		0
lever		rev/min ((2a)	lever	rev/min	mm 4	lever	rev/min	mm (3)	rev/min	mm
1,	2	3	_	4	5	6	7	8	9	10	11
ca.68		15,0-18, 10,2-14, 5,4-11, 0 - 7,	8 2	-	-	-	ca.12	200 350 450 580 630	7,0-8,2 3,7-5,8 2,0-3,3 0 -1,1	300 480 750 1140	0,4-1,5 2,4-3,0 4,4-4,9 8,3
							(3a)				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp 40°C (104°F) 2		intermediate speed	nitation high idle speed 50			fuel delivery 6	Torque- travel	Control rod
rev/min	cm ³ /1000 strokes	rev/min (4a)	rev/min	cm ⁹ /10©0 strokes	rev/min	cm ² /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
800	49,0 - 51,0	1110			1200	min. 5,25-11,25 on max.1,5 11,25-16,25 ion max.3		

Crieuning values in brackets